GEC3 User Manual

GEC3 User Manual

To ensure long, trouble-free operation, please read this manual carefully.

Precautions

Location

Using the unit in the following locations can result in a malfunction in:

- Direct sunlight
- Locations of extreme temperature or humidity
- Excessively dusty or dirty locations
- Locations of excessive vibration

Power supply

Please connect the designated AC/AC power sup-ply to an AC outlet of the correct voltage. Do not connect it to an AC outlet of voltage other than that for which your unit is intended.

Interference with other electrical devices

This product contains a microcomputer. Radios and televisions placed nearby may experience reception interference. Operate this unit at a suitable distance from radios and televisions.

Handling

To avoid breakage, do not apply excessive force to the switches or controls.

Care

If the exterior becomes dirty, wipe it with a clean, dry cloth. Do not use liquid cleaners such as benzene or thinner, or cleaning compounds or flammable polishes.

Keep this manual

After reading this manual, please keep it for later reference.

Keeping foreign matter out of your equipment

- Never set any container with liquid in it near this equipment. If liquid gets into the equipment, it could cause a breakdown, fire, or electrical shock.
- Be careful not to let metal objects get into the equipment. If something does slip into the equipment, unplug the AC/AC power supply from the wall outlet. Then contact your nearest Korg dealer or the store where the equipment was purchased.

THE FCC REGULATION WARNING (for U.S.A.)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.
- Unauthorized changes or modification to this system can void the user's authority to operate this equipment.

Data handling

Malfunctions due to incorrect operation may cause the contents of memory to be lost, so we recommend that you save important data. Please be aware that Korg will accept no responsibility for any damages that may result from loss of data.

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Using this Manual

This manual is set up for use as a step-by-step user guide and as a reference manual. The first four chapters (including this one) allow you to get familiar with the unit, take you through the basic steps for setting up the Group Education Controller 3 (GEC3) for use, and give a quick review of use and answer frequently asked questions. The next five chapters describe how to set up a class and teacher and describe each mode and the shared tabs. These chapters can be read through (as a user guide) or used for reference purposes when you need to check what the functionality is for a specific screen of field on a screen. The mode and tab descriptions follow the actual setup of the modes and tabs on the GEC3, making it easy to find the section you want. Each chapter is described below. The last chapter is an installation guide, to be used by GEC3 Administrator, or the person in charge of installing the unit.

Meet the GEC3 – This chapter describes the hardware for the GEC3 and gives an overview of the GEC3 (main teacher unit) and SI (Student units). It also gives a brief overview of the back panel and describes some features and screens of the GEC3 that apply to multiple modes.

Quick Start (Class & Teacher Preferences, Class Setup) – This chapter gives a step-by-step description for setting up class and teacher preferences and class setup. It gives you the basics for setting up the GEC3. It is recommended that you set up preferences and classes before you start using the GEC3 in a classroom setting; however, it is not required.

Basics for Using the GEC3 - This chapter gives you information on the keypad (a frequently used screen on the GEC3) and introduces the selection types that appear on the various screens on the GEC3.

Class and Teacher Preferences, and Class Setup – This chapter describes how to individualize the GEC3 for different teachers and set up class and student names.

Lecture Mode – This chapter describes *Lecture* mode and shows the all the screens (with the exception of shared tab screens) you can access in *Lecture* mode. There is a table defining the field and buttons for each screen and a How to section that gives step-by-step instructions for performing tasks on that screen.

Practice Mode – This chapter describes *Practice* mode and shows the all the screens (with the exception of shared tab screens) you can access in *Practice* mode. There is a table defining the field and buttons for each screen and a How to section that gives step-by-step instructions for performing tasks on that screen.

Group Mode – This chapter describes *Group* mode and shows the all the screens (with the exception of shared tab screens) you can access in *Group* mode. There is a table defining the field and buttons for each screen and a How to section that gives step-by-step instructions for performing tasks on that screen.

Shared Tabs, Volume, Global and Disc – This chapter describes the Volume, Global and Disc tabs, as these can be accessed and have the same functionality, regardless of what mode you are in. There is an image of each tab, a table defining the field and buttons for each screen and a "How to" section that gives step-by-step instructions for performing tasks on that screen. The *Global Ta*b section of this chapter also includes some examples, due to the comple xity of functions of the tab.

Installation – This chapter gives information and suggestions for planning, ordering equipment, and installing your GEC3 system. Someone knowledgeable and skilled in electronics and classroom setup should perform the setup procedure. Setup should not be attempted by a layperson.

Meet the GEC3

This section gives an overview to the features and functions of the GEC3. In addition, it introduces the GEC3 (main teacher unit) and back-panel and the SI (Student units).

The Basics section also describes some features and screens of the GEC3 that apply to multiple modes and are referred to several times in the rest of this manual.

Overview

Congratulations on your purchase of the Korg Group Education Controller 3 (GEC3). The GEC3 provides a fully digital, flexible and cost effective central routing system for your school or studio's music laboratory. Suitable for any teaching level, the GEC3 allows you (the teacher) to interact with as many as 16 student stations and 32 different students, or, utilizing the Expansion Unit and Split Function, up to 32 student stations, and 64 students. The GEC3 offers the following features:

- Fully digital design throughout, featuring digital transfer of audio from each student station to the GEC3 unit, S/PDIF output for digital recording of any workstation in the system, and conventional analog inputs and outputs.
- Large, intuitive touch-screen user interface featuring easy to use tabs and screens.
- Customizable teacher and class setups, including individual teacher preferences and class set-ups displaying student names
- Split function that allows two students to independently work on the same MIDI keyboard (with keyboards that can save custom panned splits) allowing you to more effectively teach larger groups of students with fewer keyboards.
- MIDI that allows teacher remote control of student keyboards via conventional MIDI cables.
- Smart media source that allows you to store or backup teacher and class information and load MIDI settings for our most popular lab keyboards.

The GEC3 system has two major components, the teacher, or GEC3 unit, and the Student Interface (SI) units. The SI Units are each connected to audio sources like MIDI keyboards, guitars, sound modules, and computer sound cards. The SI Units have jacks for two student headsets (stereo headphones with microphones). All of these audio sources are combined in the SI Unit, digitized and sent to the GEC3 Teacher Unit. These connections allow the students to musically interact with one another and you, in virtually any combination of ways.

The GEC3 is a fully digital, microprocessor-based unit that performs all teacher functions and interfaces with 16 student interface boxes. An Expansion Unit (GECEXP) is available to provide support for up to 32 student interface connections, supporting (with Split Function) a total of up to 64 students.

The GEC3 also comes equipped with Split-Function capability. One student unit is connected to one keyboard, but if you activate the **Split Function** toggle, two students can share the use of one keyboard. Combining this feature with the expansion units allows you to interface with up to 64 students at one time.

Information for up to 16 teachers can be stored on the GEC3 and settings for up to eight classes can be associated with each teacher. Settings can be stored to a Smart Media card or backed up on your Windows based personal computer.

The display is a touch-screen enabled LCD, meaning that you tap the buttons on the display screen to select options, menus and to set up and access class lists.

There are three main modes of GEC3 operation. Each of these can be selected from buttons to the left of the touch-screen interface. They are:

- Lecture Mode: This mode is used if you want to present material in a lecture format. All students hear your microphone and instrument as well as their own instruments. You have the option of including any student or students (and their microphone and instrument) in your lecture.
- Practice Mode: This mode is used if the students are working independently. Each student hears only their own instrument. You have the option of "eavesdropping" on students and you can initiate 2-way communication with the students.
- Group Mode: This mode is similar to Practice Mode but should be used if the students are working together in groups (two or more student workstations in any conceivable order). The students in a group hear their own instruments as well as the instruments of the other members of their group. Students can also speak to each other if their microphones are enabled. As in Practice Mode, you have the option of "eavesdropping" on the group and, if you wish, initiating 2-way communication with the members of the group.

Five tabs appear on the touch-screen regardless of what mode you are in. Each tab allows you to perform a variety of tasks. **All of the tabs; Play, Setup, Volume, Global and Disk, appear regardless of what mode you are in; however, the Play tab and the Setup tab function differently in each mode.** The remaining tabs; Volume, Global and Disk, function the same way, regardless of the mode you are in.

In this manual, tabs that are the same in various modes are described only once, in the *Shared Tabs* section of the manual. You are referred to the corresponding section in the *Shared Tabs* chapter from various other sections in the manual.

The GEC3 is the name of the system as a whole, and it also refers to the teacher unit of the entire GEC3 interface. The GEC3 is used to perform all the functions described in the modules.

Teacher (GEC3) Unit

The Teacher or GEC3 unit looks like this:

Screen Display

The screen display is a Touch View © touch screen, meaning, the screen is sensitive to the touch and you tap the buttons on the display screen to select options, menus and to set up and access class lists. All functions of the GEC3 (with the exception of powering on the unit and selecting modes) are served from the screen.

On the first level of screens, the mode in use is displayed, followed by the name of the screen you are on. When you are editing Class or Teacher Information, the name of the class or teacher is displayed in place of the name of the screen. The tab you are on is also highlighted.

Power On

When you press the **On** button, the GEC3 logo appears while the unit performs self-test. It looks like this:

All student units are tested and reported with on of the following symbols:

O – for “OK” if all SI units are connected.

X – for “Error” if not all SI units are connected.

If any of the units fail self test, the screen is visible until the teacher presses the screen. After power on, the GEC3 automatically loads the first teacher and class setup.

If an expansion board is in use, it is automatically detected and all additional student boxes are tested, or the "#17-32: not present" message appears.

If you experience problems during the Startup procedure, review the Installation process to make sure you installed the system properly, or, contact your system administrator or Korg representative.

Mode Buttons

The mode buttons are the three buttons to the right of the screen display. Press a mode button to select the corresponding mode (Lecture, Practice and Group). The various modes are described in the *Overview* section of this manual.

A, B and A+B Buttons

These are the three buttons below the screen display. They are used when you are using the Split Feature and need to monitor a student. When you are using the Split Feature, press **A** or **B**, then the keyboard group, to monitor the A or B student in that keyboard group.

If you are not using the Split Feature, A+B is active by default, and you do not have use for these buttons.

Back Panel

The Back Panel of the GEC3 is where all connections to Student Communication Interfaces, keyboards and external devices are made. The back panel looks like this:

Fields

Switch/Socket	Description
Power switch	Toggle switch, powers unit on/off.
AC power socket	Socket for connecting AC power cord to deliver power to GEC3 unit. Works with standard AC 110 Watt, 60 Hertz plug. Supports power supply ranging from 90 to 230Volts AC and 47 to 63 Hz.
INSTR. IN L/R	Dual RCA stereo jacks for connecting cable to instrument providing input.
AUX IN L/R	Dual RCA stereo jacks for connecting cables to auxiliary input. Routes from auxiliary source into GEC3. Store the name of this device in the **Aux1 device** field on Volume tab (see *How to Setup an Auxiliary Source* in the Volume tab section of this manual).
AUX IN 2 L/R	Dual RCA stereo Jacks for connecting cables to tape deck or other auxiliary unit. Routes from tape deck or other auxiliary source into GEC3. Store the name of this device in the **Aux 2 device** field on Volume tab. (See *How to Setup an Auxiliary Source* in the Volume tab section of this manual).
TAPE OUT L/R	Dual RCA stereo Jacks for connecting cables to tape deck or other auxiliary unit. Routes from GEC3 to tape deck or other auxiliary source. This enables recording from GEC3 to the second auxiliary (Aux2) device.

Switch/Socket	Description
ROOM OUT L/R	Dual RCA stereo Jacks for connecting cables to speaker throughout studio or classroom, allowing output of GEC3 to be heard without use of headphones. (See *How to Route Signal in your Headset to Speakers* in the Volume tab section of this manual).
MIDI IN (5-pin DIN)	Used to connect the MIDI OUT of the teacher keyboard thereby allowing "remote control" of student keyboards. When ALL CALL is enabled, the teacher can send program and bank change information to student keyboards that are connected to the MIDI OUT of the GEC3. By "daisy chaining" student keyboards (MIDI OUT of GEC3 to MIDI IN of 1st student keyboard, MIDI THRU of 1st student keyboard to MIDI IN of 2nd student keyboard, etc.) When All Call is NOT enabled, the MIDI connection is broken between teacher and student keyboards.
MIDI OUT (5-pin DIN)	Sockets for connecting cables to MIDI device, allowing uploading of data to Smart Media cards. (See the Disc tab section of this manual.) Types of data include, but are not limited to: Configurations associated with classes and teachers and MIDI settings. (See the Disc tab section of this manual for details.)
S/P DIF	Jack for connecting cable to digital output.
USB (b-type connector)	Socket for connecting USB cable to PC.
SI connectors	RJ45 connectors for connecting cables to SI units.

Student Communications Interface (SI) Units

The Student Communications Interfaces (SI) units are the student units connected to the GEC3. The SIs are not described in great detail, as their functionality is relatively simple.

They look like this:

Front

Fields

The following is a list of buttons and jacks that can be accessed from the front of the SIs:

Switch/Socket	Description
Call	Student presses to send a Call to the teacher, indicating that they want to communicate with the teacher.
HEADESET1	Socket for connecting the first headset.
SPLIT	SPLIT. The student presses if they need to use the Split Feature (two students using the same keyboard, in split function)
HEADSET2	Socket for connecting the second headset.
VOLUME DOWN	Student presses to decrease volume in their headset.
VOLUME UP	Student presses to increase volume in their headset.

Back

The following is a list of jacks that can be accessed from the back of the SIs:

Switch/Socket	Description
INSTR. R / L	Dual RCA stereo jacks for connecting cable to instrument providing input, right and left
AUX IN1 R/L	Dual RCA stereo jacks for connecting cables to auxiliary input 1. Routes from auxiliary source into SI.
AUX IN2	1/8” TRS stereo jack for connecting cables to auxiliary input 2. Routes from auxiliary source into SI.
MIC OUT	1/8” mono jack for connecting cables to mic.
GEC	Female RJ45 jack for connection to ethernet category 5 cable to GEC3 unit.

Note:

SI Boxes (student units) should only be connected or disconnected while the GEC3 teacher unit is turned off. The GEC3 teacher unit establishes connection with the student units when the GEC3 is powered on. DO NOT PLUG OR UNPLUG SI BOXES (STUDENT UNITS) WHILE THE GEC3 IS TURNED ON. Permanent damage to the GEC3 and/or the SI boxes may occur if student units are plugged or unplugged into the system when the GEC3 is turned on.

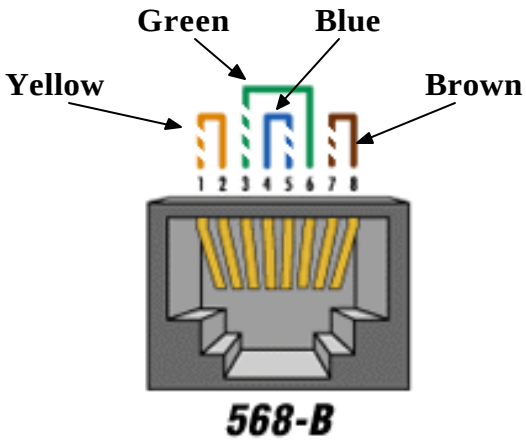
Quick Start

This section gives the user basic instructions for out-of-the-box use of the GEC3. It is recommended that you review the “Meet the GEC3” chapter so you are familiar with the device before starting operation.

Basic Hook Up

The GEC3 System consists of the GEC3 Teacher Unit and Student Interface Boxes (SI boxes) for each workstation in your system. The base GEC3 system can accommodate up to 16 SI boxes. By adding the optional GECEXP expansion card to the GEC3 Teacher unit, up to 32 SI boxes can be hooked up to the system.

The cable used to connect SI boxes to the GEC3 Teacher unit is conventional category 3 or category 5 (recommended) Ethernet cable. Both ends of the cables terminate in standard computer networking RJ45 connectors. Cable of this type can be purchased in fixed lengths, or for custom installations, can be cut and “crimped” on site. The crimping scheme is the standard “568B” specification shown below.

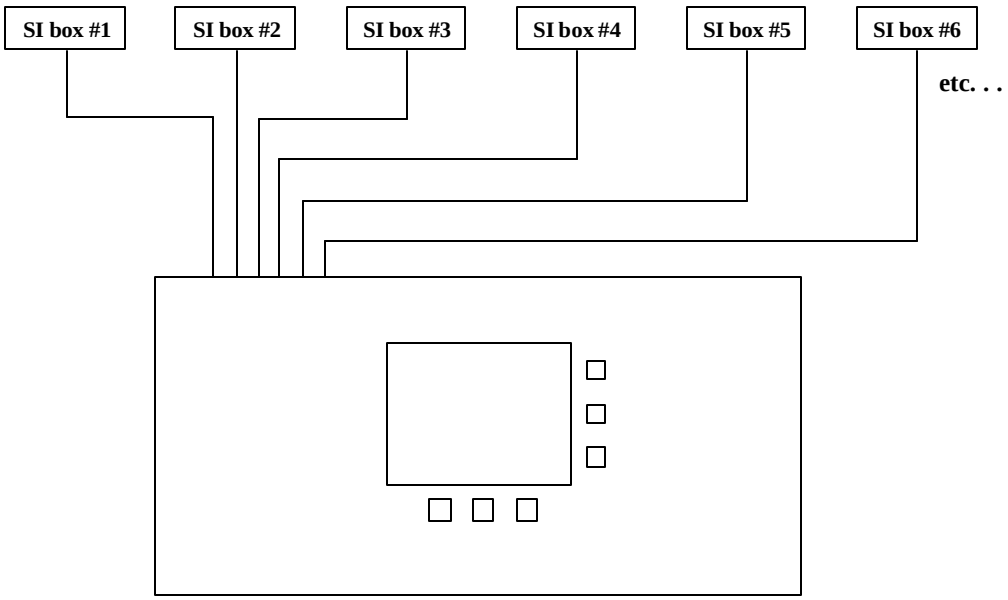


Note:

If the cables are not crimped properly, permanent damage may be caused to the GEC and/or the SIs. If you have questions regarding crimping procedures or you do not feel confident in completing the cabling process, contact your dealer.

Note:

SI Boxes (student units) should only be connected or disconnected while the GEC3 teacher unit is turned off. The GEC3 teacher unit establishes connection with the student units when the GEC3 is powered on. DO NOT PLUG OR UNPLUG SI BOXES (STUDENT UNITS) WHILE THE GEC3 IS TURNED ON. Permanent damage to the GEC3 and/or the SI boxes may occur if student units are plugged or unplugged into the system when the GEC3 is turned on.



Audio Cables for the GEC3

All **GEC3** audio connections (connections at the teacher controller) are configured as stereo RCA inputs and outputs. The **GEC3** Teacher unit accepts the following audio inputs:

- Teacher Instrument – audio from a MIDI keyboard, guitar (with preamp), sound module, computer soundcard, or any stereo line level source. **Since the GEC3 automatically routes the Teacher Instrument to the student stations in many situations, it should be the teacher's primary instrument.**
- Auxiliary Input 1 – audio from a CD player, tape player, computer soundcard, or any stereo line level source.

- Auxiliary Input 2 – another place to connect audio from a CD player, tape player, computer soundcard, or any stereo line level source.

The **GEC3** Teacher unit has the following outputs:

- Tape Out – stereo line level output intended for recording whatever signal the teacher is hearing in the teacher headset.
- Room Out - stereo line level output intended for sending whatever signal the teacher is hearing in the teacher headset to a powered speaker system.

The **GEC3** has a MIDI IN and a MIDI OUT port.

- MIDI IN – the MIDI OUT port of the Teacher Instrument can be connected to the **GEC3** MIDI IN port via a conventional MIDI cable. When "ALL CALL" is enabled on the **GEC3** touchscreen, the teacher can control the sound of student keyboards with program change messages
- MIDI OUT – the MIDI IN port of the first student keyboard can be connected to the **GEC3** MIDI OUT port to receive program change messages from the Teacher Instrument connected to the MIDI IN port of the **GEC3.** Using the MIDI THRU port of the first student keyboard, the second student keyboard can be included in the MIDI system as well. This can be repeated to include all student keyboards in the lab**. The MIDI OUT port can also be used to deliver system exclusive "Keyboard Setups" to configure popular keyboards to take advantage of the GEC3's Split Function.**

The **GEC3** also has a USB port and a digital output (S/PDIF)

- USB – the USB port allows connection of the unit to a personal computer for back up of **GEC3** data as well as computer based control of the **GEC3**.
- S/PDIF OUT – outputs **whatever signal that the teacher is hearing in the teacher headset** digitally (16 bit, 48 KHz) to a CD Recordable Drive or Audio Interface.

Audio Cables for the SI Boxes

SI (student interface) audio connections (connections at the student stations) are configured as stereo RCA and 1/8" stereo inputs. The **SI** unit accepts the following stereo RCA audio inputs:

- Student Instrument – audio from a MIDI keyboard, guitar (with preamp), sound module, or any stereo line level source.
- Auxiliary Input 1 – another place to connect audio from a sound module, or any stereo line level source.

The **SI** unit accepts the following stereo 1/8" stereo (TRS) input:

- Auxiliary Input 2 – another place to connect audio from a CD player, tapeplayer, computer soundcard, or any stereo line level source.

The **SI** unit has the following output (1/8" Mono):

- MIC OUT – allows connection of the student's headset microphone to the AUDIO INPUT of a computer soundcard, in order to allow digital recording of students voice or interaction with software ear training programs.

GEC Installation Hardware

When installing your **GEC3 Learning System**, special care must be taken when permanently attaching the **SI's** to or near the student stations.

The **SI's** are designed with two through-holes that will allow the student interfaces to be semi-permanently attached to wooden desks/workstations.

Replacement Hardware

Over time, headsets, student interfaces (SI boxes) and cables may require replacement. Contact your dealer for replacement information.

"Out of Box" Operation

The GEC3 allows many teachers to set their own preferences for how the GEC3 operates. Teachers can also label their own classes and even input the names and locations of students in each class so that students are always viewed by name. This is especially helpful when multiple teachers are using the GEC3 for perhaps many different classes. See *the Class & Teacher Preferences, Class Setup* section for information on how to do this.

If the situation is simple (for instance you are the only teacher using the GEC3 and you work with a few small classes) you can bypass the class and teacher setup process and use the GEC3 as is. If this is how you decide to use the GEC3, you will be using the default teacher preferences and you will not have the capability to assign class preferences, setup classes with class names and assigned student workstations. You will; however, have all the basic functionality of the GEC3 available to you.

Top 10 How-To's

For those who want to get up and running with the GEC3 right away, here are concise instructions on how to perform the most common classroom tasks with your GEC3.

These instructions do not show screens, define fields or explain the use of the Split Feature and MIDI functions. For a more detailed look at each mode and tab, see the corresponding Mode and Shared Tabs sections of this manual.

How to give a presentation "lecture" and play your teacher instrument for the class

1. Press the **Lecture** mode button.
2. Press the **Play** tab from the row of tabs at the bottom of the screen.
3. To play your instrument to the class, make sure your instrument is plugged in to the **Instrument In** connection in the back panel and play your instrument.

How to cue up and play musical examples from CD, tape, or any other sound source to the class and add your own commentary

This example uses the Aux1 but the procedure is the same for devices plugged into Aux2.

1. Make sure the auxiliary source you want to use is connected to the back panel of your GEC3. (AUX. IN for Aux 1 device and AUX IN 2 for Aux 2 device).
2. Press the **Lecture** mode button.
3. Press the **Volume** tab from the row of tabs at the bottom of the screen.
4. Determine the Auxiliary source (Aux 1 or Aux 2) you want to use.
5. Press **(Aux 1) Enable** to check it.
6. Press **Aux 1 Cue**. This will allow you to preview the track before broadcasting to the class.
7. Cue up the auxiliary source to the desired selection of music.
8. To adjust the volume, use the volume controls corresponding with Aux 1.
9. When music is cued up, press **Aux 1** to play the selection.
10. To interject commentary, press the **Teacher ON** checkbox at the top of the *Volume* screen. Aux1/Aux2 volume is decreased by 12 dB (so the your voice can be heard over the aux. source). Press **Teacher ON** a second time to uncheck it and resume the original volume.

How to bring a student and their student instrument(s) into the lecture so they can share their work and voice with the class

1. Press the **Lecture** mode button.
2. Press the **Play** tab from the row of tabs at the bottom of the screen.

3. Press a student number, corresponding to where a student is sitting in the classroom, to bring students into the lecture.
   When a student has been brought into the lecture, their instruments and mic are enabled, if student mics are enabled in class preferences (this is the default setting). You and the class will be able to hear that student's mic and instrument. A microphone appears next to the student's name to indicate that they have been brought into the lecture.

How to exclude students from a lecture so they can work independently from the rest of the class

1. Press the **Lecture** mode button.
2. Press the **Setup** tab from the row of tabs at the bottom of the screen.
3. Press the number corresponding to where a student is sitting in the classroom, to bring up the *QWERTY Keypad*.
4. Press **Omit from Lecture** to select it. If checked, the student will not be able to hear your mic or instrument. This is ideal if one or multiple students are working outside of the rest of the class. An X will appear on the *Play* and *Setup* tabs in the group box to indicate that this student or group box is omitted from the lecture.

How to let students practice independently at their workstations while you work independently at yours

1. Press the **Practice** mode button.
2. Press the **Play** tab from the row of tabs at the bottom of the screen.
   Students can work independently. You can also work independently.

How to "eavesdrop" on a student during practice

1. Press the **Practice** mode button.
2. Press the **Play** tab from the row of tabs at the bottom of the screen.
3. Press the number corresponding to where a student is sitting in the classroom, to eavesdrop on that student.
   You will be able to hear that student's mic and instrument, but they will not be able to hear yours, and they will not be aware that you can hear their instrument or mic. The student keyboard group will be highlighted on your GEC3 unit to indicate that you are eavesdropping on that student.
4. To end eavesdropping, press the *Practice Mode* button, or select another student.

How to communicate with a student during practice

1. Press the **Practice** mode button.

2. Press the **Play** tab from the row of tabs at the bottom of the screen.
3. Press the number corresponding to where a student is sitting in the classroom twice.
4. To end communication, press the *Practice Mode* button or select another student.

How to link student workstations into "Duets" and "Quartets" for peer learning/collaboration

Setting duets automatically groups students in pairs according to student workstation number. For example, students at workstation 1 and workstation 2 are grouped, students at workstation 3 and workstation 4 are grouped, etc. If the number of students is uneven, you can add the unmatched student into any group you wish from the main group tab (see *Group Screen* in the *Group Mode* chapter). Quartet Automatically groups students in fours according to workstation number. For example, students at workstation 1, workstation 2, workstation 3 and workstation 4 are grouped, students at workstation 5, workstation 6, workstation 7 and workstation 8 are grouped, etc. If the number of students is not divisible by four, you can add the unmatched students into groups from the main group tab (see *Group Screen* in the *Group Mode* chapter).

1. Press the **Group** mode button.
2. Press the **Play** tab from the row of tabs at the bottom of the screen.
3. Press the dropdown arrow on the top right corner of the *Play* tab. The Load Group screen displays, listing the default configurations and any custom configured groups (see the *Setup* tab section in the *Group Mode* chapter for information on how to configure permanent groups).
4. Select from duet or quartet (if you want to select custom groups, see the section *Setup Tab*, in the *Group Mode* chapter). Once you have made your selection, press **Back** to close the screen.
5. Press **BACK** to return to the *Setup* screen.
   Students are now grouped into pairs or quartets.

How to make sure every student in the class is listening to you.

The **All Call** button appears at the bottom of the screen on every screen. Press it to route signal from your mic to every headphone set connected in the studio or classroom. This is the quickest way to establish communication with the students, and it is convenient when you are in any mode other than *Lecture* mode.

By pressing the **All Call** button, you turn off all student instruments and student will hear you (the teacher) and your instrument only. All other audio present in the system is disabled – students can only hear you.

How to broadcast anything in the teacher headset through the room speaker system

1. From the **Lecture, Practice, or Group** mode button, Press the **Volume** tab from the row of tabs at the bottom of the screen.
2. Press the **Room On** button. It routes signal in teacher headset to external speakers set up in the classroom. This feature is useful if you want to have student's remove headsets and listen to a musical piece, or if you have a situation where there are some people present in the room who are not on a GEC3 unit (for example: concert for parents).

Basics for Using the GEC3

This section gives you information on the keypad (a frequently used screen on the GEC3) and introduces the selection types that appear on the various screens on the GEC3.

The QWERTY Keypad, described below, is used whenever you want to enter data into the GEC3 memory. This is essential when performing a number of tasks, including setting up classes and assigning teacher preferences.

This section also gives an overview of the various types of selection buttons that appear in the GEC3.

QWERTY Keypad

A number of the menus take you to the keypad – this is where you can "type in" information. The following is an overview of the keypad screen, which looks like this:

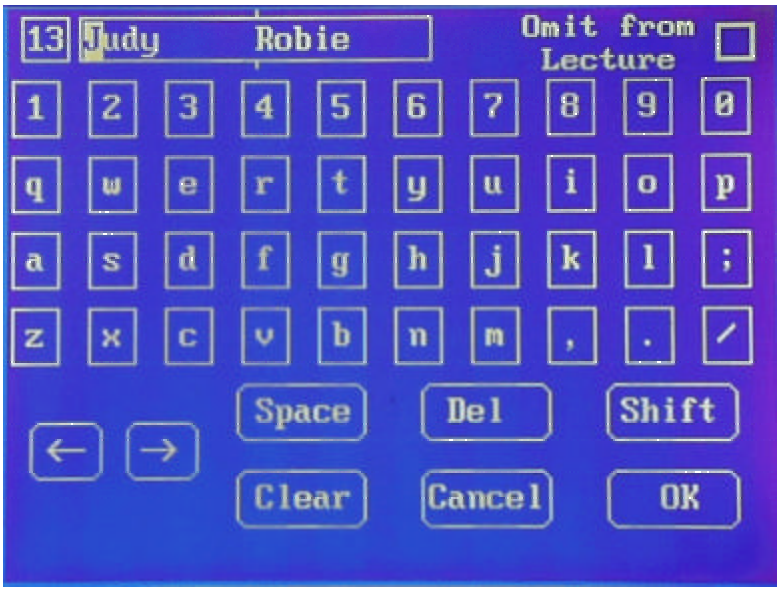


Figure 1

The information shown in the top row varies depending on the screen you are on. Generally, it displays the field into which you are entering information.

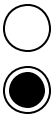
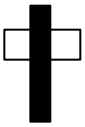
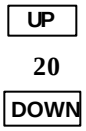
The keypad functions similarly to a computer keyboard. Press the screen to type in letters and numbers. The following table provides a list of the fields on the QWERTY Keypad.

Fields

Button	Description
Keyboard Group Number (13)	The keyboard group number of the selection you opened. If the GEC3 is in split function, you can add or edit both students assigned to a keyboard group.
Field	The field into which you are entering data, in this case, the name of the Student(s) in the keyboard group. The vertical line indicates where the top line of the field ends and the bottom line of the field begins. If you utilize the split function and are entering a student name, make sure to use only the allotted space. If Student A's name is shorter than the allotted space, use the space bar to space over to Student B's space. You can also use the line to gauge where to place the first and last names of a student.
Omit from Lecture	Check this if you want to omit the student from the lecture. If checked, the student will not be able to hear your mic or instrument. This is ideal if one or multiple students are working outside separate from the rest of the class. If you are in split function and you select this checkbox, both students in the keyboard group will be omitted from lecture. An X will appear on the *Play* and *Setup* tabs in the group box to indicate that this student or group box is omitted from the lecture.
←	Scroll to the right through existing text.
→	Scroll to the left through existing text
Space	Add a space to text, or space over to another section of the field you are in.
Del	Delete existing text. This removes the text positioned under the cursor or to the right of the cursor, as on a computer keyboard.
Shift	Press **Shift** to change keypad screen to display capital letters. Press it a second time to return the keypad screen to display lowercase letters.
Clear	Clears all existing text. This removes all text in the field.
Cancel	Cancel to cancel your entry. This closes the screen without saving changes you typed in.
OK	Press **OK** to save your entry. This closes the screen and saves changes you typed in.

Selection Types

There are the different types of selection buttons used in the GEC3:

Button	Description
	Checkbox – Press to select, press again to unselect. This type of selection does not automatically turn off. Once selected, you must press it again to unselect it.
	Radio Button – Press to select. Only one radio button in a group of radio buttons can be selected at one time. If one is already selected and you press another, the first one automatically un-selects. This type of selection is used in cases when one of the settings is always selected – for example, On or Off.
	Selection Box (with dropdown menu) – Press arrow to display options, press option to select. This type of selection is used in cases when there are a number of pre-set options to choose from.
	Volume slide – For volume selection. Press on the intersection of the black and white bars to grab the slide – slide up to raise volume and slide down to lower it. You can also press anywhere on the black bar and the white bar will jump to that point, raising or lowering the volume as selected. The actual volume number displayed between the volume buttons (see below).
	Volume buttons – For volume selection. Press up to raise the volume; press down to lower it. Press and hold down on either button to quickly scroll through the volumes. The actual volume number displayed between the volume buttons.
ALL CALL	The **All Call** button appears at the bottom of the screen on every screen. Press it to route signal from your mic to every headphone set connected in the studio or classroom. This is the quickest way to establish communication with the students, and it is convenient when you are in any mode other than *Lecture* mode. By pressing the **All Call** button, you turn off all student instruments and student will hear you (the teacher) and your instrument only. All other selections and button presses (like student box, two way communication, etc.) are disabled.

The remainder of the manual takes you through the various modes and tabs on the GEC3.

Class & Teacher Preferences, Class Setup

This chapter gives an overview of how to set up the GEC3 if you are administering the system or just setting up your own classes.

When you (the administrator or teacher responsible for administration) first get your GEC3 unit, you will want to add the names of the teachers and classes that will be used, assign teacher and class preferences to each of these and then setup classes that you will be teaching (or are in charge of administering).

You must add the names of the teachers and classes in order to assign preferences for teachers and classes and to setup classes.

Setting class and teacher preferences allows you to customize the GEC3 to suite your needs depending on your needs as a teacher, or the needs of the specific class, if your needs vary according to classes. In addition, it allows you to set teacher names and assign classes to each teacher. You need to setup these features in order to set up classes. It is possible to use the GEC3 and SI Units without first setting up teacher and class preferences; however, you will then not be able to take full advantage of the GEC3's functionality as all default settings will be used and you will not be able to setup classes or make notations associated with classes or students.

It is important to note that each student is associated with a class and each class is associated with a teacher. It is easiest to perform administration from the bottom up, in the following sequence:

1. Add the names of the teachers that will be using the GEC3.
2. Add classes to be associated with the set teachers.
3. Assign teacher preferences to each teacher.
4. Assign class preferences to each class (or select to apply teacher preferences).
5. Setup each class using the *Setup* tab.

Adding Teacher Names

Teacher information can be set up for up to 16 teachers on the GEC3. It does not matter which mode you are in.

1. Open the *Global* tab by pressing **Global** from the row of tabs at the bottom of the screen. The *Global* tab looks like this:

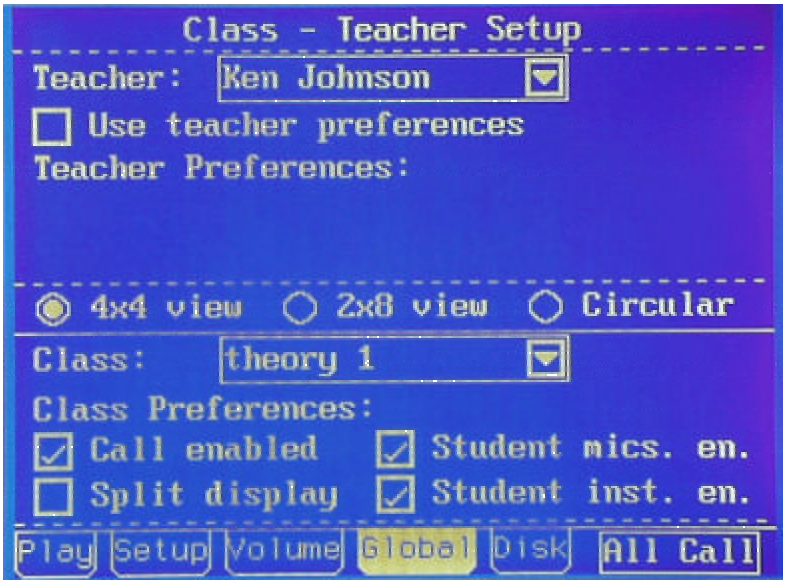


Figure 2

2. Press on the arrow next to the *Teacher* field on the *Global* tab. The following screen displays, listing all undefined teacher names.

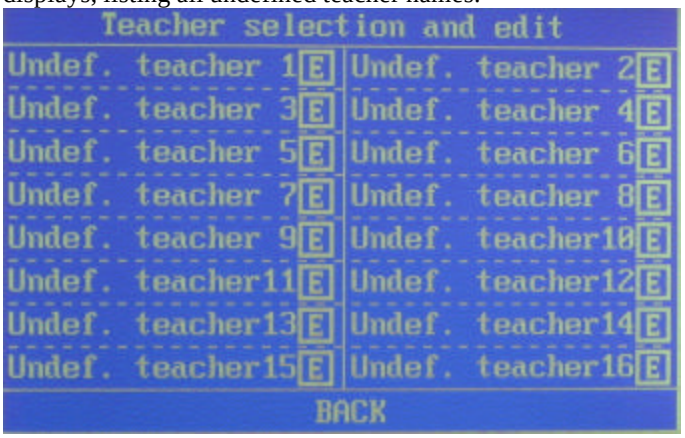


Figure 3

3. Press the **E** next to an Undef. teacher field to add a new teacher. The *Edit Teacher Information* screen displays. It looks like this:

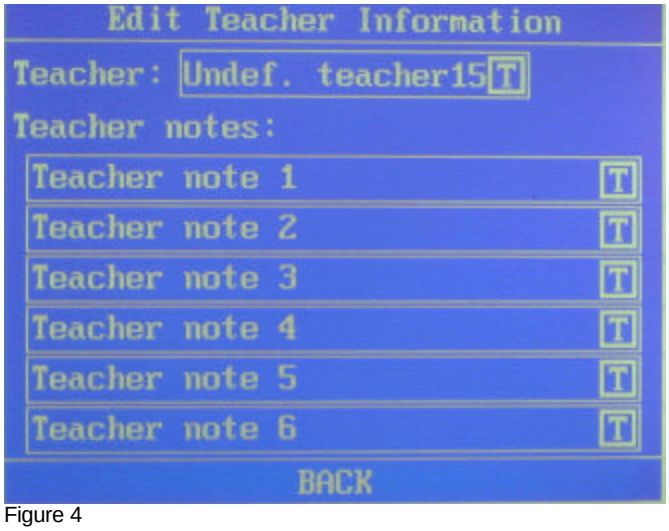


Figure 4

4. Press the **T** next to the Teacher field to access the QWERTY Keypad to enter a name in this field. See the section *QWERTY Keypad* in *Basics* for instructions on how to use the keypad.
5. Enter the desired name using the QWERTY Keypad.
6. Press **Back** to return to the *Teacher Selection and Edit* screen. Repeat steps 2 through 5 until you have added all the desired teachers.
7. Press **Back** twice to return to the main tab.
8. Press **Disc** to open the Disc tab.
9. Press **Save Global Setup** to save changes.

Adding Class Names

Class information can be set up for up to 128 classes on the GEC3. All the other class setup and features for a class must be associated with this class name. It does not matter which mode you are in.

1. Open the *Global* tab by pressing **Global** from the row of tabs at the bottom of the screen.
2. Press on the arrow next to the *Teacher's Name* field to select the teacher who's list of classes you would like to create. (Classes are always assigned to a teacher.)
3. Press on the arrow next to the *Class* field. The following screen displays, listing all classes and undefined classes associated with the selected teacher.

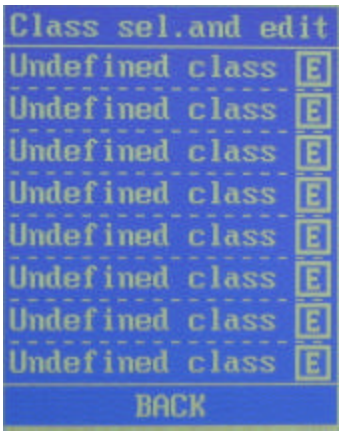


Figure 5

4. Press the **E** next to an Undefined class field to add a new class. The *Edit Class Info* window displays. It looks like this:

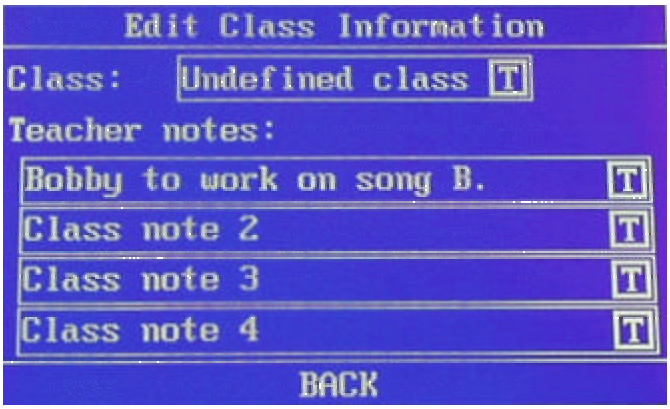


Figure 6

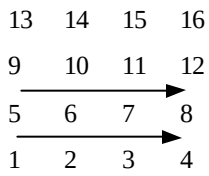
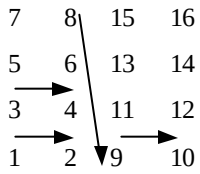
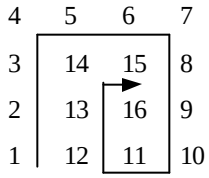
5. Press the **T** next to the Class field to access the QWERTY Keypad to enter a class name in this field. See the section *QWERTY Keypad* in *Basics* for instructions on how to use the keypad.
6. Enter the desired name using the QWERTY Keypad.
7. Press **Back** to return to the *Class Selection and Edit* screen. Repeat steps 2 through 5 until you have added all the desired classes to be associated with the teacher name.
8. Press **Back** twice to return to the main tab.
9. Press **Disc** to open the Disc tab.

10. Press **Save Global Setup** to save changes.

Assigning Teacher Preferences

1. Open the *Global* tab by pressing **Global** from the row of tabs at the bottom of the screen.
2. Press on the arrow next to the *Teacher's Name* field to select the teacher whose preferences you would like to set.
3. Make the selections that you want to be associated with the teacher name in the *Teacher Preferences* box (from the fields described below).

Field	Description
Call enabled	Select if you want to be notified when a student presses the **Call** button on their SI units. If enabled, an audible beep is sent to your headset when a student presses the **Call** button on their SI to signal that they want to communicate with you. The name of the student flashes on the display. From the *Play* screen, you can press on the student's name to enable their mic.
Split display	Split function allows two students to share one keyboard. If student keyboards are set up to accommodate split function, pressing this option to check it enables students to set their SI to split function. (Note: This does not set keyboards or student units to split function, it only enables the feature.)
Student Mics en.	This field must be checked for SI Unit Mics to be functional. **If Student Mics Enabled field is not checked, there will be no communication through mics between you and students.** This option is convenient – uncheck for practice-only classes where you do not want to communication through mics.
Student inst en.	This field must be checked for the SI Units to be functional. **If Student Inst field is not checked, SI units will not function.** This option is convenient - uncheck for use in cases where a study hall or other not music-related class is being taught in a lab equipped with GEC3 equipment, and you don't want students to play with equipment.

Field	Description
4 X 4 View	View determines how the SI keyboard group units are numbered in all *Play* and *Setup* screens. Select this field to number seats in a 4 by 4 pattern (or horizontally) as shown:  If you are using the expansion unit and have a second set of seats, they are numbered in the same pattern, numbers 17 thru 32.
2 X 8 View	View determines how the SI keyboard group units are numbered in *Play*, *Setup* and other screens. Select this field to number seats in a 2 by 8 pattern, as shown:  If you are using the expansion unit and have a second set of seats, they are numbered in the same pattern, numbers 17 thru 32.
Circular View	View determines how the SI keyboard group units are numbered in *Play*, *Setup* and other screens. Select this field to number seats in a circular pattern, useful for workstations set up around the periphery of a room, as shown:  If you are using the expansion unit and have a second set of seats, they are numbered in the same pattern, numbers 17 thru 32.
Class	Classes are linked to teachers – If you select a teacher name (see *Teacher Name* above) the classes corresponding to that teacher display. A total of 128 class periods can be stored in the GEC3 memory. Class names are added, and names and preferences are edited using *Edit Class Info*, described below. Select a class here (if listed) to edit associated preferences.

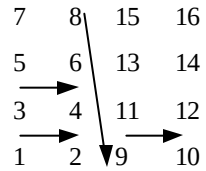
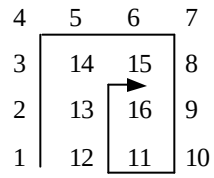
4. Press **Disk** to open the *Disk* tab.

5. Press **Save Global Setup** to save changes.

Assigning Class Preferences

1. Open the *Global* tab by pressing **Global** from the row of tabs at the bottom of the screen.
2. Press on the arrow next to the Teacher's Name field to select the teacher whose class(es) you would like to set preferences for. You will now be able to select from the classes associated with the teacher in the *Class* field.
3. Press the arrow next to the *Class* field to select the class you would like to set preferences for.
4. Make the selections that you want to be associated with the class name in the Class Preferences box (from the fields described below).
   OR
   If you want to apply teacher preferences as they are set up in the *Teacher Preferences* screen, select **Use Teacher Preferences**.

Field	Description
4 X 4 View	View determines how the SI keyboard group units are numbered in *Play*, *Setup* and other screens. Select this field to number seats in a 4 by 4 pattern (or horizontally) as shown: 13 14 15 16 9 10 11 12 → 5 6 7 8 → 1 2 3 4 If you are using the expansion unit and have a second set of seats, they are numbered in the same pattern, numbers 17 thru 32.

Field	Description
2 X 8 View	View determines how the SI keyboard group units are numbered in *Play*, *Setup* and other screens. Select this field to number seats in a 2 by 8 pattern, as shown:  If you are using the expansion unit and have a second set of seats, they are numbered in the same pattern, numbers 17 thru 32.
Circular View	View determines how the SI keyboard group units are numbered in *Play*, *Setup* and other screens. Select this field to number seats in a circular pattern, as shown:  If you are using the expansion unit and have a second set of seats, they are numbered in the same pattern, numbers 17 thru 32.
Class	Classes are linked to teachers – If you select a teacher name (see *Teacher Name* above) the classes corresponding to that teacher display. A total of 128 class periods can be stored in the GEC3 memory. Class names are added, and names and preferences are edited using *Edit Class Info*, described below. Select a class here (if listed) to edit associated preferences.
Call enabled	Select if you want to be notified when a student presses the **Call** button on their SI units. If enabled, an audible beep is sent to your headset when a student presses the **Call** button on their SI to signal that they want to communicate with you. The name of the student flashes on the display. From the *Play* screen, you can press on the student's name to enable their mic.
Split display (function)	Split function allows two students to share one keyboard. If student keyboards are set up to accommodate split function, pressing this option to check it enables students to set their SI to split function. (Note: This does not set keyboards or student units to split function, it only enables the feature.)

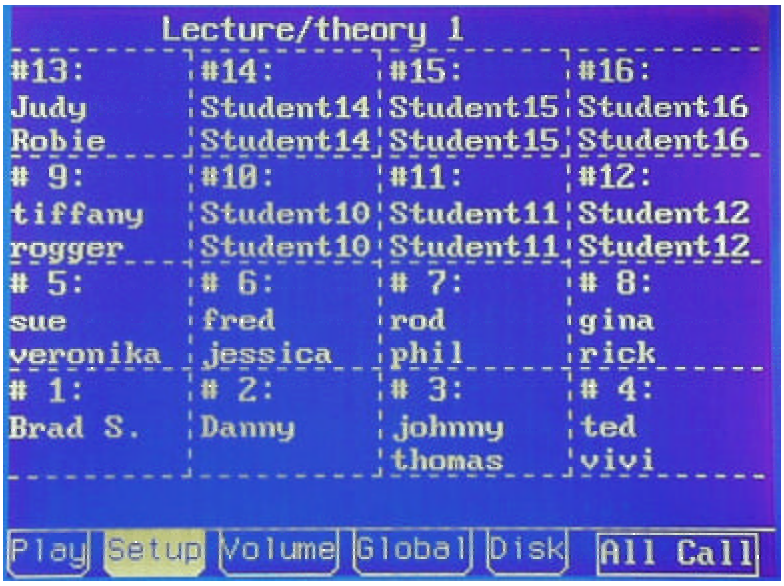
Field	Description
Student Mics en.	This field must be checked for SI unit mics to be functional. **If Student Mics Enabled field is not checked, there will be no communication through mics between you and students.** This option is convenient – uncheck for practice-only classes where you do not want to communication through mics.
Student inst en.	This field must be checked for the SI Units to be functional. **If Student Inst field is not checked, SI units will not function.** This option is convenient - uncheck for use in cases where a study hall or other not music-related class is being taught in a lab equipped with GEC3 equipment, and you don't want students to play with equipment.

5. Press **Disk** to open the *Disk* tab.
6. Press **Save Global Setup** to save changes.

Setting Up Student Names for a Class

1. First, you must select the class you want to set up. Open the *Global* tab by pressing **Global** from the row of tabs at the bottom of the screen.
2. From the **Teacher** field, select the teacher name that is associated with the class you want to open. All the classes associated with the teacher will now be available from the **Class** field.
3. Select the class name from the **Class** field.
4. The procedure for setting up a class is performed on the *Setup* tab. To open this screen, press **Setup** from the row of tabs at the bottom of the screen. The Setup Screen looks like

this:



5. Press a student's keyboard group in *Setup* mode to bring up the *QWERTY Keypad*.
6. Use the QWERTY keypad to enter in each student's name into the **Student Name field**. See the section *QWERTY Keypad* in *Basics* for instructions on how to use the keypad.
7. Close the *QWERTY Keypad* after you finish entering each student, and start the procedure again for each student name you are entering.

Note:
*When not using the Split Feature, you can use the whole **Student Name** field to enter the student's name. When you are using the Split Feature, the vertical line indicates where Student A ends and Student B begins. Make sure to use only the allotted space for each student. If student A's name is shorter than the allotted space, use the space bar to space over to Student B's space*

---

8. Press **Disk** to open the *Disk* tab.
9. Press **Save Global Setup** to save changes.

Repeat the procedure for each class you need to setup.

You are now ready to use the GEC3 for instruction in a class setting. Read through the following chapters to understand the functionality and features available to you in each mode.

Lecture Mode

Lecture mode is used when you (the teacher) want to present material in a lecture format. All students hear your microphone and instrument as well as their own instruments. You can also bring students into the lecture so they can be a part of the presentation. To access the Lecture mode functions, you must use the tabs on the bottom of the screen to move around in the various tabs. Below is a list of the tabs and the functions that can be performed from each tab.

- Play – The operational tab for Lecture mode. It is used to add students into the lecture.
- Setup – The *Setup* tab looks like *Play* tab. The *Setup* tab is used to assign and maintain students in a class in the GEC3. You can edit a student's name from the S*etup* tab, regardless of what mode you are in.
- Volume - The *Volume* tab is used to set volume for the unit, auxiliary inputs and to route sound to speakers. You can change volume using the *Volume* tab, regardless of what mode you are in.
- Global - The *Global/Class-Teacher Setup (Global)* tab is used to set class and teacher preferences, edit class and teacher information.

Disk - The *Disk* tab is used to backup information in the GEC3 and to initiate system exclusive data transfers to configure popular lab keyboards for use with the GEC3's Split Feature.

Note:

Lecture Mode is the default system mode.

***Teacher ON** is automatically turned on in Lecture mode, so everybody (except students that have **Omit from Lecture** selected) can hear the teacher's mic and instrument.*

Play Tab

Note:

The Play tab is the default screen for Lecture mode; therefore, by default, the system starts up on Play tab, in Lecture mode.

The *Play* tab is the main screen – it is used to bring students into the *Lecture*. When you enter the *Play* tab, your mic and instrument are automatically broadcast to all students in the lecture. You can bring students into the lecture (enabling their mics and instruments for the class to hear) as needed.

If **Call Enabled** is selected in *Class Preferences* on the *Global* tab, a student can press the **Call** button on their Student Interface (SI) to send an audible beep to your headset indicating that they want to communicate with you.

To open the *Play* tab, press **Play** from the row of tabs at the bottom of the screen. In *Lecture* mode, the *Play* tab looks like this:

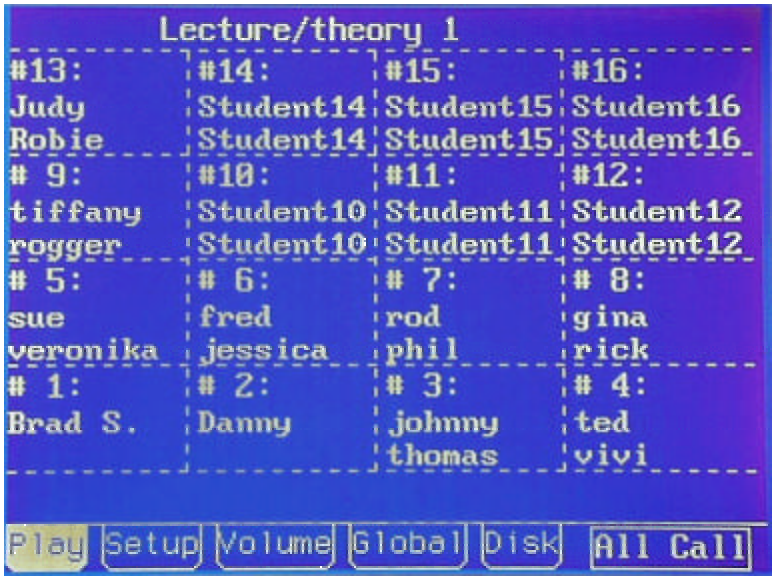


Figure 7

Note:
When the GEC3 is using the Split Feature (as in the above figure) the top name in each keyboard group is Student A and the second is Student B. For example, Ted is student 4A and Vivi is student 4B.

How to…

Open a Class

All student names are associated with a class. Use the following procedure to open a class that has already been set up on your GEC3:

1. Open the *Global* tab, by pressing **Global** from the row of tabs at the bottom of the screen.
2. From the **Teacher** field, select the teacher name that is associated with the class you want to open. All the classes associated with the teacher will now be available from the **Class** field.
   OR
   If desired teacher name is not listed, add the teacher name using the *Edit Teacher Information* screen, described in the *Global* chapter.

3. Select class name from **Class** field.

Bring a Student into the Lecture

1. Press a student's name to bring that student into the lecture.
   OR
   Press the **A** or **B** button, then select the keyboard group you want to access. For example, to select Ted, press **A** and then keyboard group 4. You can also select the Keyboard group first, and then press **A** or **B**. If split function is not in use, **A + B** is activated, and there is no need to make a selection using these buttons.
2. When a student has been brought into the lecture, their instruments and mic are enabled, if student's mics is enabled in class preferences. You and the class will be able to hear that student's mic and instrument. A microphone appears next to the student's name to indicate that they have been brought into the lecture. The microphone looks like this:

   If the student's mic is disabled in Class Preferences, and the teacher opens up communication with a student, the mic icon has a greater than sign indicating that the communication is one way only.
3. If you have an expanded GEC3, which can accommodate up to 32 workstations, students from a different set of 16 (17-32, 33-48), can be accessed by scrolling to that screen to access the student's name.

Bring a Student Who Called from their SI into the Lecture

1. If **Call Enabled** is selected in *Class Preferences* on the *Global* tab, a student can press the **Call** button on their Student Interface (SI) to send an audible beep to your headset. The word "**CALL**" appears next to the name of the student on the display, indicating that the student would like to be brought into the lecture.
2. If a student calls from a different set of 16 (17-32, 33-48), the tab from that screen flashes, signaling you to scroll to that screen to access the student's name.
3. Press a student's name to bring that student into the lecture.
   OR
   Press the **A** or **B** button, then select the keyboard group you want to access. For example, to select Ted, press **A** and then keyboard group 4. You can also select the Keyboard group first, and then press **A** or **B**. If split function is not in use, **A + B** is activated, and there is no need to make a selection using these buttons.
4. When a student has been brought into the lecture, their instruments and mic are enabled, regardless of whether the student mics are enabled in class preferences. You and the class will be able to hear that student's mic and instrument. A microphone appears next to the

student's name to indicate that they have been brought into the lecture. The microphone looks like this:

Remove a Student from lecture

Press a student's name a second time to remove them from the lecture. They will continue to hear your mic and instrument, but you and the rest of the class will no longer be able to hear theirs.

Play Your Instrument to the Class

To play your instrument to the class, make sure your instrument is plugged in to the INSTRUMENT IN connection on the back panel of the GEC3 and play your instrument.

Setup Tab

The *Setup* tab is used to assign and maintain students in a class in the GEC3. You can edit a student's name from the S*etup* tab, regardless of what mode you are in.

To open the *Setup* tab, press **Setup** from the row of tabs at the bottom of the screen. The *Setup* tab looks like this:

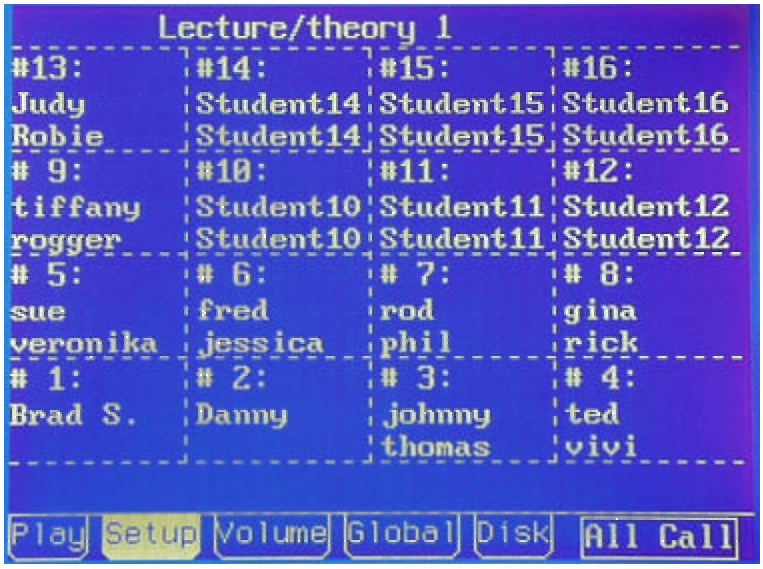


Figure 8

How to…

Open a Class (from which to view or edit student names)

All assigned student names are associated with a class. To bring up a class, you must first assign that class a name using the *Class Selection and Edit* screen. Prior to viewing or editing student names on this screen, open the class you wish to view or modify using the following procedure. If you choose not to assign a class name, skip to the *View or Edit a Student's Name* procedure)

1. Open the *Global* tab, by pressing **Global** from the row of tabs at the bottom of the screen.
2. From the **Teacher** field, select the teacher name that is associated with the class you want to open. All the classes associated with the teacher will now be available from the **Class** field.
   OR
   If desired teacher name is not listed, add the teacher name using the *Edit Teacher Information* screen, described in the *Global* chapter.
3. Select a class name from the **Class** field.

View or Edit a Student's Name

1. Press a student's keyboard group in *Setup* tab to bring up the *QWERTY Keypad*.
2. Use the QWERTY keypad to enter each student's name into the **Student Name field**
3. Close the *QWERTY Keypad* after you finish entering each student, and start the procedure again for each student name you are entering. See the section *QWERTY Keypad* in *Basics* for instructions on how to use the keypad.

Note:
*When not using the Split Feature, you can use the whole **Student Name** field to enter the student's name. When you are using the Split Feature, the vertical line indicates where Student A ends and Student B begins. Make sure to use only the allotted space for each student. If student A's name is shorter than the allotted space, use the space bar or the scroll arrow to space over to Student B's space.*

---

5. Press **Disk** to open the *Disk* tab.
6. Press **Save Global Setup** to save changes.

Volume, Global & Disc Tabs

See the section *Shared Tabs – Volume, Global & Disc* for more information on any of these tabs in *Lecture* mode.

Practice Mode

Practice mode is used when the students are working independently. Each student hears only their own instrument. You have the option of hearing the student, or hearing and speaking with the student.

In Practice mode, the Setup, Volume, Global, and Disk tabs look and function exactly as in Lecture mode. They appear in this module for continuity and so you can stay in Practice mode while making changes to student names, volumes, preferences and files without disrupting the student's practice.

To access the Practice Mode functions, you must use the tabs on the bottom of the screen to move around in the various tabs. Below is a list of the tabs and the functions that can be performed from each tab.

- Play – The operational tab for Practice mode. Although this tab looks the same as it does in *Lecture* mode, it functions differently.
- Setup – The *Setup* tab looks like *Play* tab. It is used to assign and maintain students in a class in the GEC3. You can edit a student's name from the S*etup* tab, regardless of what mode you are in. This tab functions the same way in this mode as it does in *Lecture* mode. For a description of how the tab works, see the section *Setup Tab* in the *Lecture Mode* chapter of this guide.
- Volume - The *Volume* tab is used to set volume for the unit, auxiliary inputs and to route sound to speakers. You can change volume using the *Volume* tab, regardless of what mode you are in. For a description of how the tab works, see the section *Volume Tab* in the *Lecture Mode* chapter of this guide.
- Global - The *Global/Class-Teacher Setup (Global)* tab is used to set Class and Teacher preferences, edit class and teacher information. For a description of how the tab works, see the section *Global Tab* in the *Lecture Mode* chapter of this guide.
- Disk - The *Disk* tab is used to backup information in the GEC3 and to initiate system exclusive data transfers to configure popular lab keyboards for use with the GEC3's Split Feature. For a description of how the tab works, see the section *Disk Tab* in the *Lecture Mode* chapter of this guide.

Play Tab

Note:

The Play tab is the default screen for Practice mode.

The *Play* tab is the operational screen – you use it when you want to "eavesdrop" on students or initiate 2 way communication with them. When you enter the *Play* tab, you cannot hear students (except a beep if a student presses their **Call** button, see below) and they cannot hear you- *but everyone can hear themselves.* This is ideal for individual practice.

If **Call Enabled** is selected in *Class Preferences* on the *Global* tab, a student can press the **Call** button on their Student Interface (SI) to send an audible beep to your headset indicating that they want to communicate with you.

To open the *Play* tab from *Practice* mode, select *Play* from the row of tabs at the bottom of the screen. In *Practice* mode, the *Play* tab looks like this:

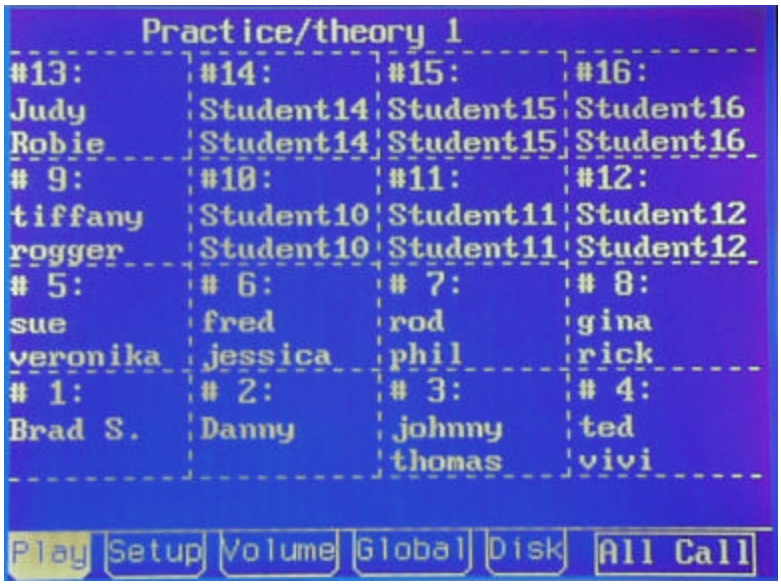


Figure 9

How to…

Open a Class

All student names are associated with a class. To bring up a class, use the following procedure:

1. Open the *Global* tab, by pressing **Global** from the row of tabs at the bottom of the screen.
2. From the **Teacher** field, select the teacher name that is associated with the class you want to open. All the classes associated with the teacher will now be available from the **Class** field.

OR
If desired teacher name is not listed, add the teacher name using the *Edit Teacher Information* screen, described in the *Global* chapter.

3. Select class name from **Class** field.

Eavesdrop on a student

1. Press a student's name to eavesdrop on that student.
   OR
   If you are using the Split Feature, press the **A** or **B** button, then select the keyboard group containing the student on which you want to eavesdrop. For example, to select Ted, press **B** and then keyboard group 4. You can also select the Keyboard group first, and then press **A** or **B**. If split function is not in use, **A + B** is selected, and there is no need to make a selection using these buttons.

   You will be able to hear that student's mic and instrument, but they will not be able to hear yours, and they will not be aware that you can hear their instrument or mic. The student keyboard group will be highlighted on your GEC3 unit to indicate that you are eavesdropping on that student.
2. If you have an expanded GEC3, which can accommodate up to 32 workstations, students from a different set of 16 (17-32, 33-48), can be accessed by scrolling to that screen to access the student's name.
3. To end communication, press the *Practice Mode* button.
   OR
   to establish two-way communication, see the procedure *Establish two-way communication with a student*, below.

Establish two-way communication with a student

1. Press on a student's name twice to establish 2-way communication with the student. Not only will you be able to hear the student, but they will also be able to hear you.

   A small microphone displays next to the student with which you have 2-way communication. It looks like this:

Note:

If you are using the Split Feature and you have established two-way communication with a student, you can use the A and B buttons below the Touch Screen to toggle between listening to student A and student B. Although the students will not be able to hear each other, they will

BOTH hear you regardless of which button is active. To end communication, press the Practice Mode *button or press the student's name again.*

Communicate with a student who called from their SI

1. If **Call Enabled** is selected in *Class Preferences* on the *Global* tab, a student can press the **Call** button on their Student Interface (SI) to send an audible beep to your headset. The word "**CALL**" appears next to the name of the student on the display, indicating that the student would like to be brought into the lecture.
2. If a student calls from a different set of 16 (17-32, 33-48), the tab from that screen flashes, signaling you to scroll to that screen to access the student's name.
3. See how to *Establish two-way communication with a student*, above, to communicate with that student.

Note:
If you are eavesdropping or communicating with a student in one keyboard group and you press on another student in another keyboard group, you will end your session with the first student, as you cannot eavesdrop on or communicate with more than one student (or keyboard group) at a time in Practice mode.

Setup Tab

The *Setup* tab is used to assign and maintain students in a class on the GEC3. You can edit a student's name from the S*etup* tab, regardless of what mode you are in.

To open the *Setup* tab, press **Setup** from the row of tabs at the bottom of the screen. The *Setup* tab looks like this:

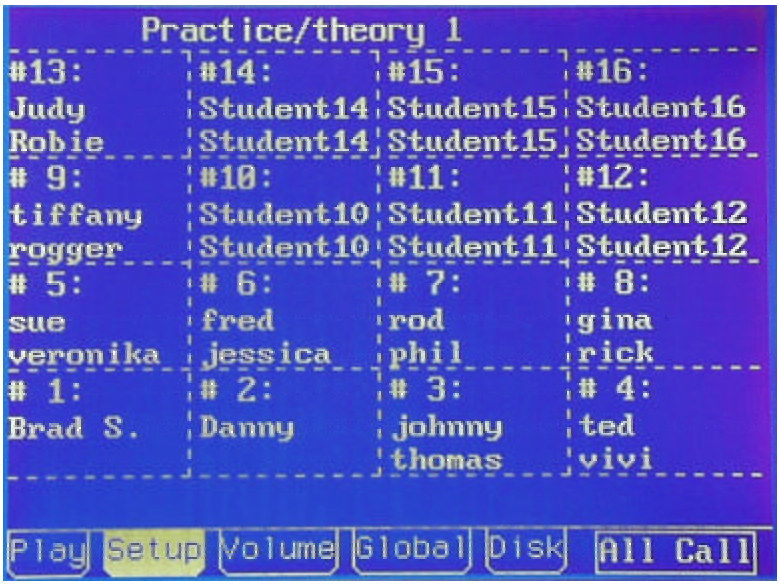


Figure 10

How to…

Open a Class (from which to view or edit Student Names)

All student names are associated with a class. To bring up a class, you must first assign that class a name using the *Class Selection and Edit* screen. Prior to viewing or editing student names on this screen, open the class you wish to view or modify using the following procedure:

1. Open the *Global* tab, by pressing **Global** from the row of tabs at the bottom of the screen.
2. From the **Teacher** field, select the teacher name that is associated with the class you want to open. All the classes associated with the teacher will now be available from the **Class** field.
   OR
   If desired teacher name is not listed, add the teacher name using the *Edit Teacher Information* screen, described in the Global chapter.
3. Select the class name from the **Class** field.

View or Edit a Student's Name

1. Press a student's keyboard group in *Setup* mode to bring up the *QWERTY Keypad*.
2. Use the *QWERTY Keypad* to enter each student's name into the **Student Name** field. See the section *QWERTY Keypad* in *Basics* for instructions on how to use the keypad.
3. Close the *QWERTY Keypad* after you finish entering each student, and start the procedure again for each student name you are entering.

Note:
*When not in spit function, you can use the whole **Student Name** field to enter the student's name. When you are in split function, the vertical line indicates where Student A ends and Student B begins. Make sure to use only the allotted space for each student. If student A's name is shorter than the allotted space, use the space bar or the scroll arrow to space over to Student B's space.*

---

4. Press **Disk** to open the *Disk* tab.
5. Press **Save Global Setup** to save changes.

Volume, Global & Disc Tabs

See the section *Shared Tabs – Volume, Global & Disc* for more information on any of these tabs in *Practice* mode.

Group Mode

Group mode is used when you want to allow students at different workstations to work together. Group mode allows you to define groups of two or more student workstationsso they can collaborate on projects with complete audio capabilities. Each student hears their own instrument and the mic(s) and instrument(s) of the other students working in their assigned group (if mics and inst are enabled in teacher and class preferences). You have the option of eavesdropping on the groups or having 2-way communication with them.

In *Group* mode, the *Volume*, *Global*, and *Disk* tabs look and function exactly as in *Lecture* mode. They appear in this module for continuity and so you can stay in *Group* mode while making changes to student names, volumes, preferences and files without disrupting student's practice.

To access the *Group* mode functions, you must use the tabs on the bottom of the screen to move around in the various tabs. Below is a list of the tabs and the functions that can be performed from each tab.

- Play – The operational tab for *Group* mode. This tab looks very much like the *Play* tabs in *Lecture* mode and *Practice* mode, but it functions differently. In *Group* mode the *Play* tab is used to select groups on which to eavesdrop or with which to communicate, and to temporarily assign students to groups.
- Setup – The *Setup* tab looks like *Play* tab. It is used to assign and maintain groups and classes in the GEC3. In the Setup tab in Group mode, you can define student groups.
- Volume - The *Volume* tab is used to set volume for the unit, auxiliary inputs and to route sound to speakers. You can change volume using the *Volume* tab, regardless of what mode you are in. For a description of how the tab works, see the section *Volume Tab* in the *Shared tabs* chapter of this guide.
- Global - The *Global/Class-Teacher Setup (Global)* tab is used to set Class and Teacher preferences, edit class and teacher information. For a description of how the tab works, see the section *Global Tab* in the *Shared tabs* chapter of this guide.
- Disk - The Disk tab is used to backup information in the GEC3 and to initiate system exclusive data transfers to configure popular lab keyboards for use with the GEC3's Split Feature. For a description of how the tab works, see the section *Disc Tab* in the *Shared tabs* chapter of this guide.

Note:

*In Group mode, **Teacher ON** can be turned on manually, but any individual or grouped student selection will automatically turn off **Teacher ON**. (If you want all students to hear you, switch to Lecture mode.)*

Play Tab

Note:

The Play tab is the default screen for Group mode.

The *Play* tab is the operational screen – you use it when you want students to practice in groups. You can use the *Play* tab to select groups on which to "eavesdrop" or to select groups with which to communicate, and to setup short-term groups.

In *Group* mode, the *Play* tab looks like this:

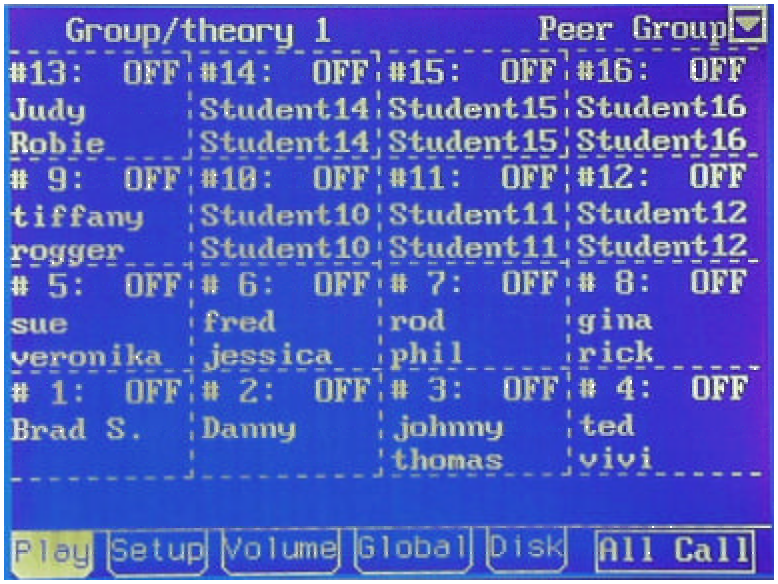


Figure 11

If student's names have not already been assigned to workstations in the setup modes, the word "Student" followed by the student number appears twice in each student group box, as in some instances in the illustration above. However, if student names have already been assigned, the assigned name appears in each group box.

How to…

Eavesdrop on a group

1. Press any student's name (who is part of the group on which you want to eavesdrop).

   You will be able to hear every student who is part of that group's mics and instruments, but they will not be able to hear you, and they will not be aware that you can hear their instruments and mics.

2. To end eavesdropping, press the **Group Mode** button.
   OR
   To end eavesdropping on that group and begin eavesdropping on another group, simply press a student belonging to that other group,
   OR
   to establish two-way communication, simply press a second time on a students name belonging to the group you are eavesdropping on.

Establish two-way communication with a group

1. Press on a student's name twice to establish 2-way communication with each member of the group that student belongs to. Not only will you be able to hear the students, but they will also be able to hear you.

   A small microphone displays next to each student with which you have 2-way communication (each member of the group). It looks like this:

2. To end communication, press the *Group Mode* button.

Communicate with a group (when a member called from their SI)

1. If **Call Enabled** is selected in *Class Preferences* on the *Global* tab, a student can press the **Call** button on their Student Interface (SI) to send an audible beep to your headset. The word "CALL" appears next to the name of the student on the display, indicating that the student or group would like to communicate with you.

2. See how to *Establish two-way communication with a group*, above, to communicate with that student.

Note:
If you are eavesdropping on or communicating with a group and you press on a student in another student group, you will end your session with the first group, as you cannot eavesdrop on or communicate with more than one group at a time in Group mode.

Load Group Screen

The *Load Group* screen can be accessed from the *Play* tab in *Group* mode via the small dropdown arrow in the top right corner of the screen. The name of the active configuration appears next to the arrow (for example, Duet, Config 1 or the name of a custom configured group).

How to load group info

1. Press the dropdown arrow on the top right corner of the *Play* tab. The following screen displays, listing all the default configurations and any custom configured groups (up to 4 custom groups can be created for each class stored in the GEC3 - see the *Setup* tab section in this chapter for information on how to configure custom, recallable groups).

   The *Load Group* screen displays. It looks like this:

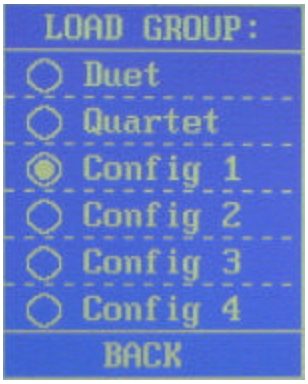


Figure 12

2. Select from the following fields:

Field	Description
Duet	Automatically groups students in pairs according to SI number. For example, students at SI 1 and SI 2 are grouped, students at SI 3 and SI 4 are grouped, etc. If the number of students is uneven, you can add the unmatched student into any group you wish from the main group tab (see *Group Screen* in this chapter).
Quartet	Automatically groups students in fours according to SI number. For example, students at SI 1, SI 2, SI 3 and SI 4 are grouped, students at SI 5, SI 6, SI 7 and SI 8 are grouped, etc.
Config 1 thru Config 4	Custom groups can be configured on the GEC3. See the section *Setup Tab,* in this chapter, for more information on configuring custom groups. Select a custom configuration here. (In setup, you can name custom configurations. If names have been assigned, they will appear here instead of Config 1, Config 2, etc....)

3. Once you have made your selection, press **Back** to close the screen.

Configuration Screen (Play tab)

The *Configuration* screen can be accessed from the *Play* tab in *Group* mode via the text (button) on the top right corner of each student group box. When no group is assigned, the text reads **OFF**. If the student has been assigned to a group, the name of the active configuration appears (for example, Duet, Config 1 or the name of a custom configured group).

Use this screen to assign students to groups other than duet or quartet, or to make modifications to existing default group settings. For exa mple, use this screen if you want students #2, #5 and # 7 to be in a group, or if you used the *Load Group* screen to setup pre-configured duets or quartets, and you want to add another student workstation to an existing duet or quartet.

In the *Play Tab*, changes to group assignments via this screen are temporary - they will revert back to their saved status when the class is changed. To configure permanent groups, see the section *Setup Tab* in this chapter.

How to assign a group

1. Press the button on the top right corner of the student group box (by default reading **OFF**) containing the name of the student you want to assign to a group. The *Configuration* screen displays, listing all the possible groups to which you can assign the student. It looks like this:

Figure 13

2. Select the group you want the student to belong to.
   OR
   Select **GR.OFF** if you do not want the student assigned to a group. (You can use this setting if it is not appropriate for that individual to be assigned to a group and you want them to work independently.
3. Once you have made your selection, press **BACK** to close the screen.
   The group you selected will appear on the top right corner of the student group box.
4. Repeat steps one thru three until you have assigned each student you wish to the group.

Note:
If you are using the Expansion Unit, each unit of 16 students works independently; you cannot group students from one set of 16 with students from another set of 16. For example, you cannot group a student in keyboard group 5 with a student from keyboard group 17.

5. When you are finished, begin assigning students to the next group.
6. Once you have assigned all students to groups as desired, press **BACK** to close the screen.
   The students are now ready to work in *Group* mode.

How to load and customize a (pre-set) group

1. Load a preset group (see the procedure *How to load group info*, in this chapter for directions) Duet or Quartet.
2. Make any changes by adding students to the existing groups or by moving students from one group to another (see the procedure *How to assign a group*, in this chapter for directions).

Setup Tab

The *Setup* tab looks like the *Play* tab. Regardless of what mode you are in, you can use it to assign student names to SI units in the GEC3. In *Group* mode, you can also use the *Setup* tab to customize and save student groups *for each class*.

In *Group* mode, the *Setup* tab looks like this:

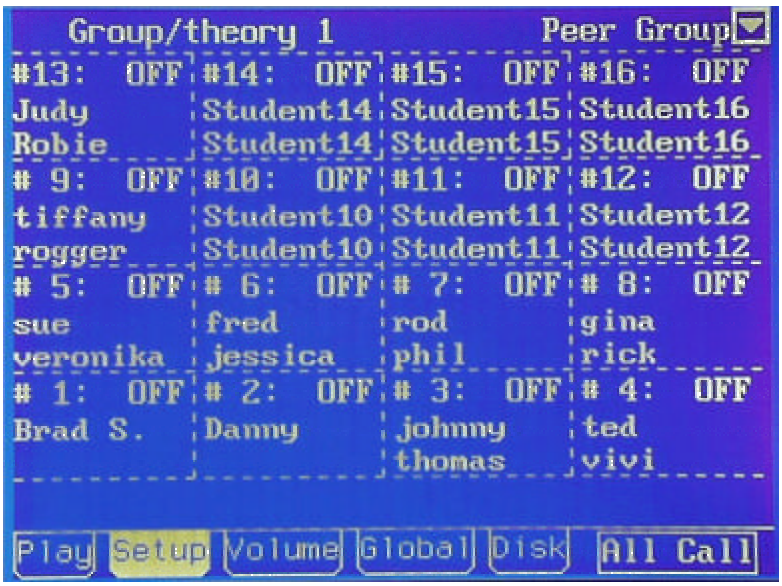


Figure 14

Procedures for group setup require you to use the *Group Setup* and *Configuration* screens, both accessed from the *Setup* tab, and described below.

Configuration Screen (Setup tab)

The *Configuration* screen can be accessed from the *Setup* tab in *Group* mode via the text (button) on the top right corner of each student group box. When no group is assigned, the text reads **OFF**. If the student has been assigned to a group, the name of the active configuration appears (for example, Duet, Config 1 or the name of a custom configured group).

Use this screen, in conjunction with the *Group Setup* screen, to assign students to permanent groups that you can later recall. You can assign groups other than duet or quartet, or make modifications to existing default group settings. For example, use this screen if you want

students #2, #5 and # 7 to be in a group that you can later recall. Groups that are assigned via this screen are named (by default, Config 1, Config 2, etc. that can be changed to custom names) and can be recalled for later use. To configure temporary groups that do not need to be saved for later recall, see the section *Play Tab* in this chapter.

The *Configuration* screen looks like this:

Figure 15

Group Setup Screen

The *Load Group* screen can be accessed from the *Setup* tab in *Group* mode via the small dropdown arrow in the top right corner of the screen. The name of the active configuration appears next to the arrow (for example, Duet or Config 1).

Use this screen, in conjunction with the *Configuration* screen, to assign students to permanent groups that you can later recall.

The *Group Setup* screen looks like this:

Figure 16

Fields

Button/Field	Description
Config 1 thru Config 4	Select a group for which you want to perform any of the below lis ted activities. For example, select Config 2 if you want to save the displayed settings on *Setup* screen (*Using Save Config As* option, described below) as Config 2. To save the system configuration, once you have assigned students to groups using the Configuration screen. Stores a copy of all assigned groups for later retrieval.
Load Config	Use to upload a previously set group configuration. You might want to use this option if you need to change previously assigned groups.
Save Config As	Use to save configuration currently set on *Setup* screen, to the selected configuration option (Config 1 thru Config 4, described above).
Rename Config T	Use to rename a configuration. This can be done at any time, before or after saving a configuration. You might want to use this option if student groups use assigned names (EG, colors, composers, instruments, etc…) for group names, as opposed to group numbers.
Back	Press to return to the *Setup* screen.

Group Setup Procedures (How to…)

Save a group configuration

1. From the *Setup* screen, press the button on the top right corner of the first student you want to assign to the group. The *Configuration* screen displays, listing all the possible groups to which you can assign the student.
2. Select the group you want the student to belong to.
3. Once you have made your selection, press **BACK** to close the screen.
   The group you selected will appear on the top right corner of the student group box.
4. Repeat steps one thru three until you have assigned each student you wish to the group.
5. When you are finished, begin assigning students to the next group.
6. When you have assigned all students to groups as desired, press the dropdown arrow in the top right corner of the *Setup* tab to open the *Group Setup* screen
7. Select the desired configuration (EG: Config 1)

8. Press **SAVE CONFIG AS.**
9. Press **BACK** to return to the *Setup* screen.
   This configuration will now be available for future use.

Load a group configuration

Load configuration allows you to bring up previously saved configurations. You might use this option if you need to edit a configuration setting.

1. From the *Setup* screen, press the small dropdown arrow in the top right corner of the screen. The *Group Setup* screen displays.
2. Select the Configuration (EG: Config 1) you want to load.
3. Press the button **LOAD CONFIG**.
4. Press **BACK** to close the screen.

Rename a group configuration

1. From the *Setup* screen, press the small dropdown arrow in the top right corner of the screen. The *Group Setup* screen displays.
2. Select the Configuration (EG: Config 1) for which you want to assign a different name.
3. Press the T button for **RENAME CONFIG**.
   The QWERTY keypad displays. See the section *QWERTY Keypad* in *Basics* for instructions on how to use the keypad.
4. The group will display with the new name. Press **BACK** to close the screen.

Shared Tabs – Volume, Global & Disc

The Volume, Global and Disc tabs are shared tabs. Shared tabs can be accessed regardless of what mode you are in. In addition, the features and functionality of the tabs is identical regardless of what mode you are in – *Lecture, Practice, or Group*.

Volume Tab

The *Volume* tab is used to set volumes for auxiliary audio devices, teacher headphones and room speakers. You can change these volume levels using the *Volume* tab, regardless of what mode you are in.

To open the *Volume* tab, press **Volume** from the row of tabs at the bottom of the screen from any of the three modes. The *Volume* tab looks like this:

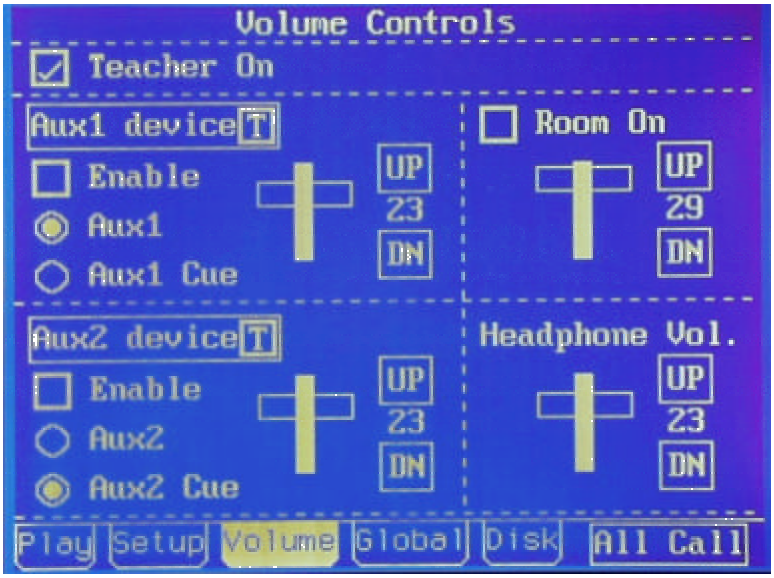


Figure 17

Fields

Button	Description
Teacher On	Teacher On is on by default. When Aux1 or Aux2 is turned ON, Teacher ON automatically turns off. When this is the case, select Teacher ON to address the class. If Aux1 or Aux2 are on, the volume is dropped by 12 dB, so your voice can be heard over the auxiliary source (for example when you are commenting on a musical example being played for the class on a CD player). When Teacher ON is turned off, the original volume of the Aux source resumes.
Aux1 device	This feature allows you to keep track of what source coincides with what Aux button. If you are changing the auxiliary device, press the T to bring up the QWERTY Keypad to enter the source name. This may be a static setting already set up on the GEC3, in which case, it is only an indictor of what Auxiliary source coincides with Aux 1, and should not be changed.
(Aux 1) Enable	If there is an Auxiliary source connected to the back panel, you can enable it using this button. See the descriptions for *Aux 1* and *Aux 1 Cue* to see output if enabled.
Aux 1	Selecting routes output of Auxiliary 1 source to everyone who can hear your headset. Source is enabled to play **only** if this button is selected **and** *Aux 1 enable* is checked.
Aux 1 Cue	Routes output of Auxiliary source only to your headset. This is a convenient feature if you want to cue-up music from a source such as a tape or CD player. Source is enabled to cue **only** if this button is selected **and** Aux 1 enable is checked.
Volume controls	Volume adjustment controls for Aux 1 device. For instructions on how to use the volume controls, see the *Volume Controls* section in the *Basics* chapter of this manual.
Room On	Routes signal in teacher headset to external speakers set up in the classroom. This feature is useful if you want to have student's remove headsets and listen to a musical piece, or if you have a situation where there are some people present in the room who are not on a GEC3 unit (EG: concert for parents).
Volume controls	Volume adjustment controls for Room On. For instructions on how to use the volume controls, see the *Volume Controls* section in the *Basics* chapter of this manual.
Aux2 device	This feature allows you to keep track of what source coincides with what Aux button. If you are changing the auxiliary input, press the T to bring up the QWERTY Keypad to enter the source name. This may be a static setting already set up on the GEC3, in which case, it is only an indictor of what Auxiliary source coincides with Aux 1, and should not be changed.

Button	Description
(Aux 2) Enable	Up to two Auxiliary sources can be connected to the back panel of the GEC3. If there are two Auxiliary sources connected to the back panel, you can enable the second using this button. See the descriptions for *Aux 2* and *Aux 2 Cue* to see output if enabled.
Aux 2	Selecting routes output of Auxiliary 2 source to everyone who can hear your headset. Source is enabled to play **only** if this button is selected **and** *Aux 2 enable* is checked.
Aux 2 Cue	Selecting routes output of Auxiliary 2 source only to your headset. This is a convenient feature if you want to cue up music from a source such as a tape or CD player. Source is enabled to cue **only** if this button is selected **and** Aux 2 enable is checked.
Volume controls	Volume adjustment controls for Aux 2 device. For instructions on how to use the volume controls, see the *Volume Controls* section in the *Basics* chapter of this manual.
Headphone Volume controls	Volume adjustment controls for your (teacher's) headphone. For instructions on how to use the volume controls, see the *Volume Controls* section in the *Basics* chapter of this manual.

How to…

Setup an Auxiliary Source

Your system administrator or installation professional should set up the auxiliary sources when they are setting up the GEC3 for initial use. However, you might need to change the auxiliary source if you are using an instrument, CD player, tape deck or other auxiliary source that is not usually used in your classroom or studio.

1. Make sure the auxiliary source is connected to the back panel of your GEC3.
2. Press the **T** to access the QWERTY Keypad to enter a name in this field, or to edit an existing entry (this is for convenience only). See the section *QWERTY Keypad* in *Basics* for instructions on how to use the keypad.

Enable an Auxiliary Source (Aux 1) for Class Listening

This example uses Aux 1, but the procedure is the same for Aux 2 (using buttons corresponding with Aux 2 functions).

1. Determine the Auxiliary source you want to use.

2. Press **(Aux 1) Enable** to check it.
3. Press **Aux 1**.
4. To adjust the volume, use the volume controls corresponding with Aux 1.
5. To interject commentary, press **Teacher ON** checkbox at the top of the *Volume* screen. Aux1/Aux2 volume is decreased by 12 dB (so the teacher's voice can be heard over the aux. source). Turn **Teacher ON** off to resume the original volume.

Cue Up a Static Auxiliary Source (Aux 1) then Enable it for Class

This example uses Aux 1, but the procedure is the same for Aux 2, using buttons corresponding with Aux 2 functions.

1. Determine the Auxiliary source you want to use, but do not select it.
2. Press **(Aux 1) Enable** to check it.
3. Press **Aux 1 Cue**.
4. Cue up the auxiliary source to the desired selection of music.
5. To adjust the volume, use the Volume Controls corresponding with Aux 1. See the *Volume Controls* section in the *Basics* chapter of this manual for more information on the volume controls.
6. When music is cued up, press **Aux 1**.

Route Signal in your Headset to Speakers

Press **Room On** to check the box.

Adjust Headphone Volume

Use the Volume Controls corresponding with headphone volume to adjust the volume in your headset. See the *Volume Controls* section in the *Basics* chapter of this manual for more information on the volume controls.

Record Out to Auxiliary Device

Audio signal present in the teacher headset of the GEC3 can be sent to an auxiliary recording device that is connected to the GEC3's *Tape Out* jack.

Set up your auxiliary system (for example, a tape player/recorder) to record – there is no need to change any setting on your GEC3. If your auxiliary system is set up to record, it will record the audio you are hearing in the teacher headset, regardless of what screen you are viewing or mode you are in.

Global Tab

The GEC3 has numerous settings – for example, *Call enabled*, which lets students notify you if they wish to ask you a question, and *Split display*, which places an "A" or "B" in front of student names as a convenience for using the Split Feature. Instead of having to make these selections each time you start the GEC3, you can save settings using the *Global* tab. You can store settings to be associated with your name or the class. This allows you to establish settings that you use in most of your classes to your name, but if you have one class that requires different settings, you can establish those accordingly. Because you associate settings to classes, when you start the GEC3, you do not need to bring up the settings - the GEC3 does it automatically.

To open the *Global* tab, press **Global** from the row of tabs at the bottom of the screen. The *Global* tab looks like this:

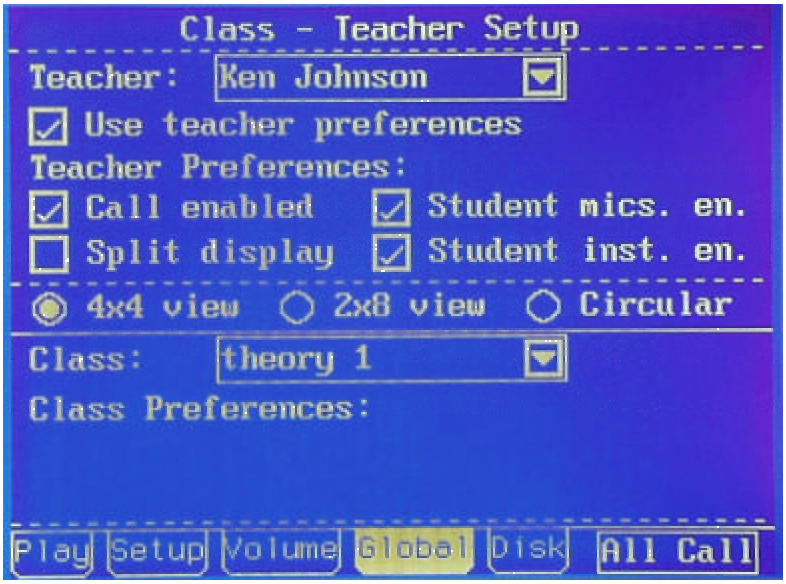


Figure 18

Note:

The Global tab changes depending on whether or not you select the "Use Teacher Preferences" option. Above, the default screen (with Use teacher Preferences selected) is shown.

Class/Teacher Setup – Teacher Mode

The *Global* tab, when set for Teacher Setup (Use teacher preferences is selected) is used to set Teacher preferences, edit teacher information, and more. The *Global* tab lets you to access numerous additional tabs that allow you to set preferences and change settings that are associated with the teacher.

To access the *Global* tab – Teacher Setup, select *Global* from the row of tabs at the bottom of the screen. Press **Use teacher preferences**. The *Global* tab, when set for Teacher Setup (Use teacher preferences is selected) looks like this:

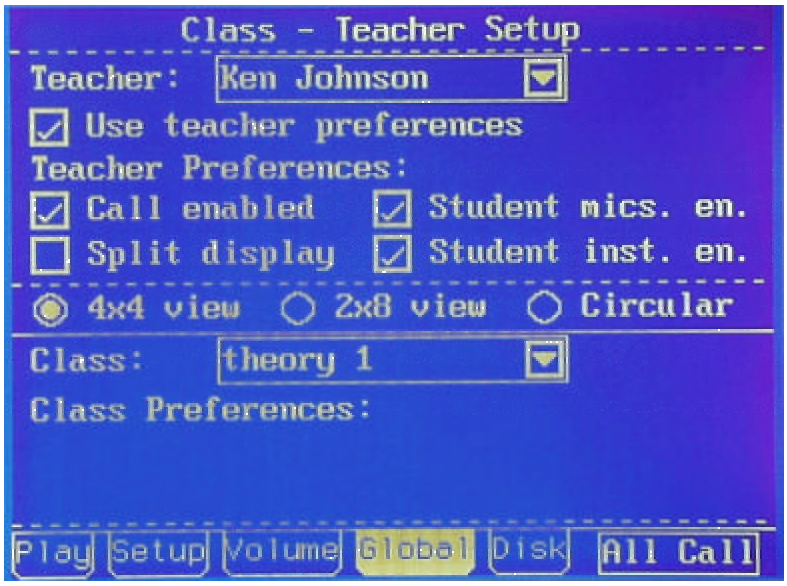
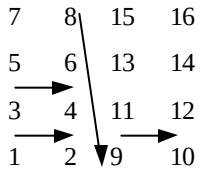
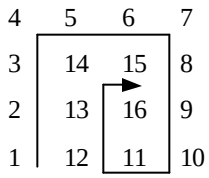


Figure 19

Fields

Field	Description
Teacher	Sixteen teacher names can be stored in the GEC3. Teacher names are added, and names and preferences are edited, using the *Edit Teacher Info* screen, described in the *Edit Teacher Info* section of this guide. Selecting a teacher here (if listed) brings up the associated settings. To change the settings associated with a teacher, select that teacher's name.
Use teacher preferences	Teacher preferences are set using the *Teacher Preferences* group box, on this screen. If this checkbox is selected, teacher preferences are applied to the selected class, and the Teacher Preferences portion of the screen displays.

Field	Description
Teacher Preferences Group Box	
Call enabled	Select this field if you want to be notified when a student presses the **Call** button on their SI units. If enabled, an audible beep is sent to your headset when a student presses the **Call** button on their SI to signal that they want to communicate with you. The name of the student flashes on the display. From the *Play* screen, you can press on the student's name to enable their mic.
Split display (function)	Split function allows two students to share one keyboard. If student keyboards are set up to accommodate split function, pressing this places an "A" or "B" in front of student names as a convenience for using the Split Feature.
Student Mics en.	This field must be checked for SI Unit Mics to be functional. **If the Student Mics Enabled field is not checked, there will be no communication through mics between you and students.** This option is convenient for use in practice-only classes where you do not want to communication through mics.
Student inst en.	This field must be checked for the SI Units to be functional. **If the Student Inst field is not checked, SI units will not function.** This option is convenient for use in cases where a study hall or other not music-related class is being taught in a lab equipped with GEC3 equipment, and you don't want students to play with equipment.
4 X 4 View	View determines how the SI keyboard group units are numbered in *Play*, *Setup* and other screens. Select this field to number seats in a 4 by 4 pattern (or horizontally) as shown: 13 14 15 16 9 10 11 12 → 5 6 7 8 → 1 2 3 4 If you are using the expansion unit and have a second set of seats, they are numbered in the same pattern, numbers 17 thru 32.

Field	Description
2 X 8 View	View determines how the SI keyboard group units are numbered in *Play*, *Setup* and other screens. Select this field to number seats in a 2 by 8 pattern, as shown:  If you are using the expansion unit and have a second set of seats, they are numbered in the same pattern, numbers 17 thru 32.
Circular View	View determines how the SI keyboard group units are numbered in *Play*, *Setup* and other screens. Select this field to number seats in a circular pattern, as shown:  If you are using the expansion unit and have a second set of seats, they are numbered in the same pattern, numbers 17 thru 32.
Class	Classes are linked to teachers – If you select a teacher name (see *Teacher Name* above) the classes corresponding to that teacher display. A total of 128 class periods can be stored in the GEC3 memory. Class names are added, and names and preferences are edited using *Edit Class Info*, described below. Select a class here (if listed) to edit associated preferences.

How to…

Set Preferences for a Teacher

1. Select the teacher from **Teacher Name** field.

Note:

When a new teacher is selected, the teacher preferences (all settings on the Global and Volume screens), first available class for that teacher, and first custom grouping for the class (seen in Group mode) are automatically loaded. Other classes can be selected from the class drop-down list.

2. Make the selections that you want to be associated with the teacher name in the Teacher Preferences group box.
3. You must assign a name to the teacher you are setting preferences for. If you have not yet done this, see the *Teacher Selection and Edit Screen* section in this chapter of the manual for instructions on how to associate these settings with a teacher name.
4. Press **Disk** to open the *Disk* tab.
5. Press **Save Global Setup** to save changes.

Apply Teacher Preferences to a Class

1. Select the class you want to apply preferences to using the Class dropdown menu.
   OR
   If desired class name is not in list, add the class using *Edit Class Info* screen described below.
2. Once teacher settings have been defined (see *Set Preferences for a Teacher*, above) make sure *Use Teacher Preferences* is checked.

Note:
*Save any changes you have made by pressing **Save Global Setup** on the Disc tab.*

Class/Teacher Setup – Class Mode

The *Global* tab, when set for Class Setup (Use teacher preferences is **not** selected) is used to set Class preferences, in cases where you do not want to apply the settings associated with the teacher. The *Global* tab, when set for Teacher Setup (Use teacher preferences is **not** selected) looks like this:

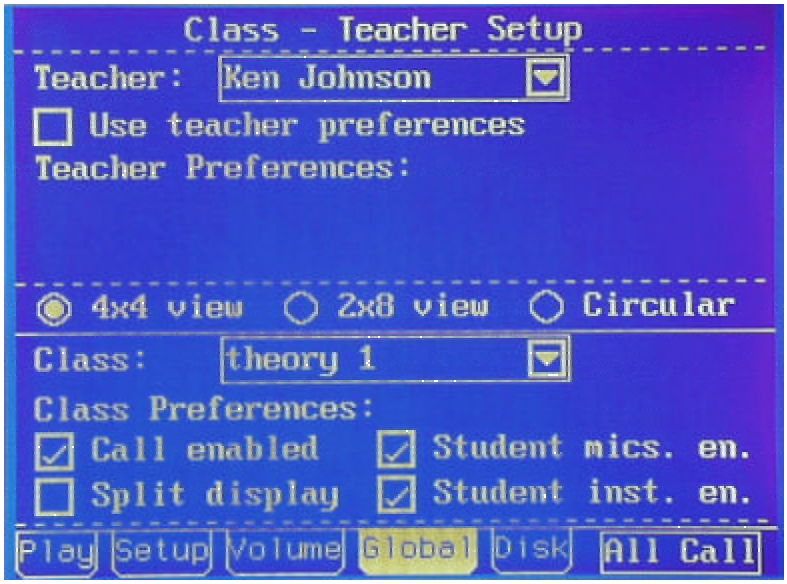
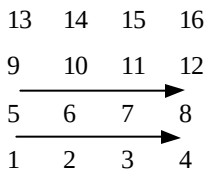
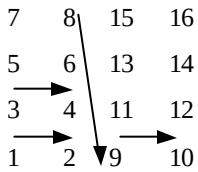
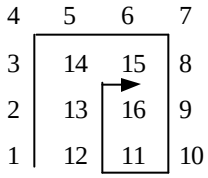


Figure 20

Fields

Field	Description
Teacher	Sixteen teacher names can be stored in the GEC3. Teacher names are added, and names and preferences are edited, using the *Edit Teacher Info* screen, described in the *Edit Teacher Info* section of this guide. Selecting a teacher here (if listed) brings up the associated settings, and in the Class field, lists associated Classes. To change the settings associated with a teacher, select that teacher's name.
Use teacher preferences	Teacher preferences are set using the *Teacher Preferences* group box, on this screen. If this checkbox is selected, teacher preferences are applied to the selected class. **Unselect** this field to apply preferences other than teacher preferences to a class, and enable the remainder of the fields shown on Figure 18.
Class Preferences Group Box	

Field	Description
4 X 4 View	View determines how the SI keyboard group units are numbered in *Play*, *Setup* and other screens. Select this field to number seats in a 4 by 4 pattern (or horizontally) as shown:  If you are using the expansion unit and have a second set of seats, they are numbered in the same pattern, numbers 17 thru 32.
2 X 8 View	View determines how the SI keyboard group units are numbered in *Play*, *Setup* and other screens. Select this field to number seats in a 2 by 8 pattern, as shown:  If you are using the expansion unit and have a second set of seats, they are numbered in the same pattern, numbers 17 thru 32.
Circular View	View determines how the SI keyboard group units are numbered in *Play*, *Setup* and other screens. Select this field to number seats in a circular pattern, as shown:  If you are using the expansion unit and have a second set of seats, they are numbered in the same pattern, numbers 17 thru 32.

Field	Description
Class	Classes are linked to teachers – If you select a teacher name (see *Teacher Name* above) the classes corresponding to that teacher display. A total of 16 class periods can be stored in the GEC3 memory for each teacher. Class names are added, and names and preferences are edited using *Edit Class Info*, described below. Select a class here (if listed) to edit associated preferences.
Call enabled	Select if you want to be notified when a student presses the **Call** button on their SI units. If enabled, an audible beep is sent to your headset when a student presses the **Call** button on their SI to signal that they want to communicate with you. The name of the student flashes on the display. From the *Play* screen, you can press on the student's name to enable their mic.
Split display (Function)	Split function allows two students to share one keyboard. If student keyboards are set up to accommodate split function, pressing this places an "A" or "B" in front of student names as a convenience for using the Split Feature.
Student Mics en.	This field must be checked for SI Unit Mics to be functional. **If Student Mics Enabled field is not checked, there will be no communication through mics between you and students.** This option is convenient for use in practice-only classes where you do not want to communication through mics.
Student inst en.	This field must be checked for the SI Units to be functional. **If Student Inst field is not checked, SI units will not function.** This option is convenient for use in cases where a study hall or other not music-related class is being taught in a lab equipped with GEC3 equipment, and you don't want students to play with equipment.

How to…

Set Preferences for a Class

1. Select the teacher name from **Teacher** field. The classes associated with the teacher will now appear in the **Class** field.
   OR
   If desired teacher name is not listed, add the teacher name using the *Edit Teacher Information* screen, described in this chapter.
2. Select the class name from **Class** field.
   OR

If desired class name is not listed, add the class using the *Edit Class Information* screen, described in this chapter.

3. Make the selections that you want for the specific class in the Class Preferences group box.
   OR
   If you want to apply teacher preferences as they are set up in the section *Teacher Preferences*, select **Use Teacher Preferences**.
4. You must assign a name to the class you are setting preferences for. If you have not yet done this, see the *Class Selection and Edit Screen* section in this chapter of the manual for instructions on how to associate these settings with a class name.
5. Press **Disk** to open the *Disk* tab.
6. Press **Save Global Setup** to save changes.

Examples

Mr. Johnson is a music teacher who teaches two General Music classes (each of which have 24 students), one Advanced Piano class with six students and a Study Hall. Obviously, he has different needs for the different classes. He might set his teacher preferences to accommodate the type of class he teaches most often, in this case, a large General Music class.

Setting Teacher Preferences

To set Teacher Preferences, Mr. Johnson:

1. Selected his name from the **Teacher** field.
2. Decided to leave the fields at their default settings (shown in fig. 1.2), in which the following are selected:
   - Call enabled
   - Split function enabled
   - Student Mics. En.
   - Student inst. En.
   - 4X4 View

   These settings work for Mr. Johnson because they accommodate the classes he teaches most frequently. The first four settings allow his students to use their instruments and share keyboards (as there are more students in each class than there are keyboards). The last two ensure that they are appropriately displayed on his GEC3.

Setting Class Preferences

For his two General Music classes, Mr. Johnson:

1. Selected his name from the **Teacher** field.
2. Selected Period 1 OR Period 2 General Music from the **Class** field.
3. Selected **Use teacher preferences**.

For his Advanced Piano class, Mr. Johnson:

1. Selected his name from the **Teacher** field.
2. Selected Period 6 General Music from the **Class** field.
3. In the Class Preferences group box, he un-selected **Use teacher preferences**, because he wanted to change preferences for this class.
4. In the Class Preferences group box, he un-selected **Split display**, because there were only six students, and each had their own keyboard.
5. In the Class Preferences group box, he selected **4X4 View**, because although the student's seats were physically set up as in the other classes (four seats in each vertical rows and four seats in each horizontal row) he wanted to number them left to right, because there were so few students.

For his study hall, Mr. Johnson:

1. Selected his name from the **Teacher** field.
2. Selected Period 9 Study Hall from the **Class** field
3. In the Class Preferences group box, he un-selected **Use teacher preferences** because he wanted to change preferences for this class.
4. In the Class Preferences group box, he un-selected **Student mics. En.** because the class would not be using the GEC3 and SI units.
5. In the Class Preferences group box, he un-**selected Student inst. En.** because the class would not be using instruments.

Once he finished making changes to the Global tab, Mr. Johnson:

1. Pressed **Disk** to open the *Disk* tab.
2. Pressed **Save Global Setup** to save changes.

Teacher Selection and Edit Screen

The *Teacher Selection and Edit* screen can be accessed from the *Global* tab. Teacher information can be set up for up to 16 teachers on the GEC3.

How to Edit Teacher Information

1. Press on the arrow next to the *Teacher* field on the *Global* tab. The following screen displays, listing all the teacher names already entered.

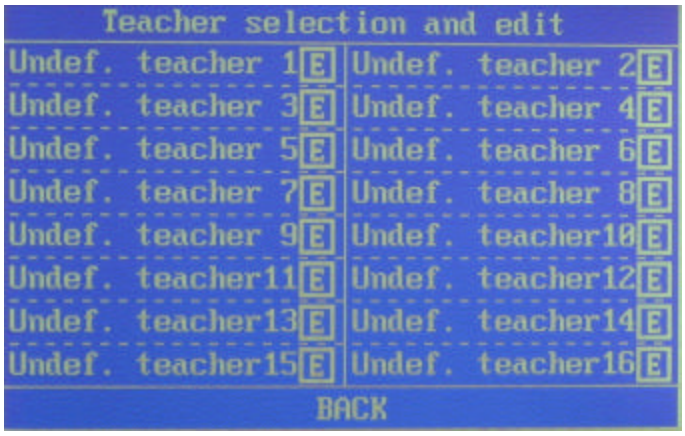


Figure 21

2. Press the **E** next to a teacher's name to edit information for that teacher, or the **E** next to an Undef. teacher field to add a new teacher. The *Edit Teacher Information* screen displays. It looks like this:

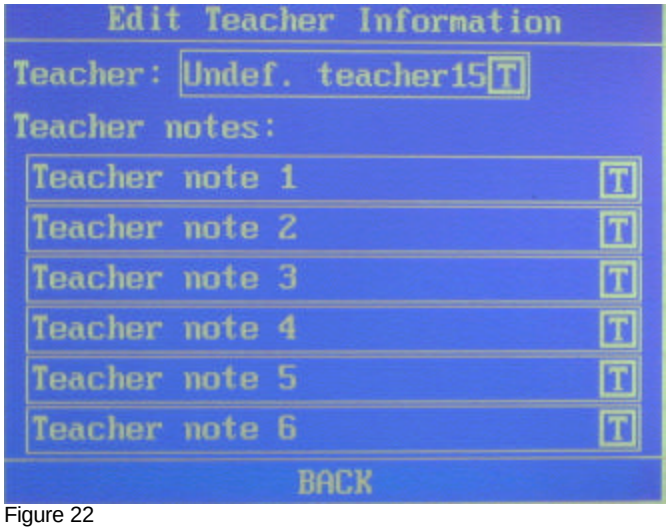


Figure 22

2. Select from the following fields:

Field	Description
Teacher	The name of the teacher that is being edited. This field is blank if you are adding a new teacher. Press the **T** to access the QWERTY Keypad to enter a name in this field, or to edit an existing entry. See the section *QWERTY Keypad* in *Basics* for instructions on how to use the keypad.
Teacher Note 1 thru Teacher Note 6	You can add notes on the Teacher Info screen. Press the **T** to access the QWERTY Keypad to enter or edit a note this field. See the section *QWERTY Keypad* in *Basics* for instructions on how to use the keypad.
Back	Press to close the screen.

3. Press **Disk** to open the *Disk* tab.
4. Press **Save Global Setup** to save changes.

Class Selection and Edit Screen

The *Class Selection and Edit Screen* can be accessed from the *Global* tab. Class information can be set up for up to 128 classes on the GEC3. **The class name is setup on this screen.** All the other class setup and features for a class must be associated with this class name; therefore, you will always select the class you wish to edit or modify here, before setting other options.

How to Edit Class Information

1. From the *Global* tab, press on the arrow next to the *Teacher's Name* field and select the teacher who's list of classes you would like displayed.
2. Press on the arrow next to the *Edit Class Info* field. The following screen displays, listing all the classes associated with the selected teacher.

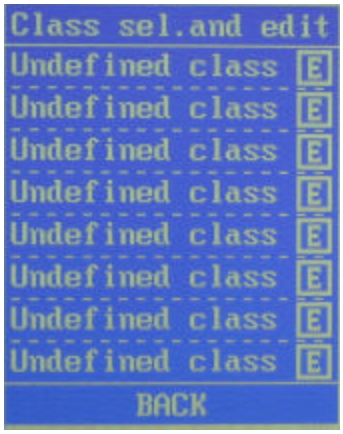
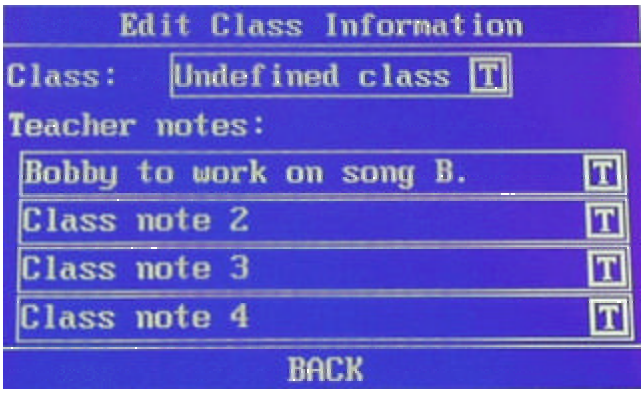


Figure 23

3. Press the **E** next to a class to edit info for that class, or the **E** next to an Undefined class field to add a new class. The *Edit Class Info* window displays. It looks like this:



4. Select from the following fields:

Field	Description
Class:	The name of the class that is being edited. This field is blank if you are adding a new class. Press the **T** to access the QWERTY Keypad to enter a class name, or to edit an existing entry. See the section *QWERTY Keypad* in *Basics* for instructions on how to use the keypad.
Teacher Notes:	Teacher's can add notes on the Class Info screen. Press the **T** to access the QWERTY Keypad to enter or edit a note this field. See the section *QWERTY Keypad* in *Basics* for instructions on how to use the keypad.

Field	Description
Back	Press to close the screen.

5. Press **Disk** to open the *Disk* tab.
6. Press **Save Global Setup** to save changes.

Disk Tab

The Disk tab is used to backup information in the GEC3, save settings, and initiate system exclusive data transfers to configure popular lab keyboards for use with the GEC3's Split Feature. All the settings and information in the GEC3 can be stored in a Smart Media card. The GEC3 contains several system exclusive "keyboard profiles" that configure popular lab keyboards for use with the Split Feature. The Split Feature can only be used with keyboards that have been configured with these system exclusive commands. These "keyboard profiles" are delivered to the keyboards in your lab via MIDI, by attaching a MIDI cable to the MIDI OUT port of the GEC3 and the MIDI IN port of one of the defined electronic keyboards. The *Disk* tab looks like this:

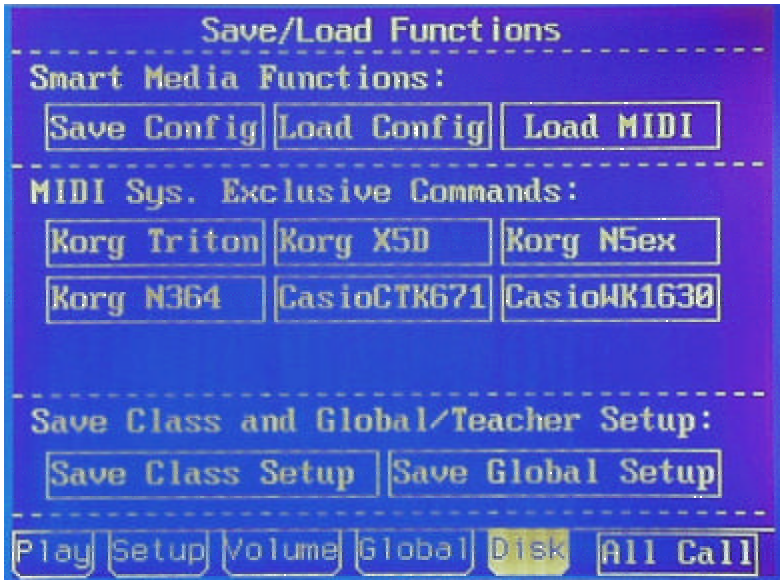


Figure 24

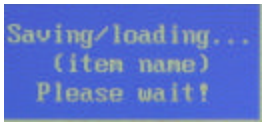
Fields

Button/Field	Description
Smart Media Functions Group Box	
Save Config	Press to save the system configuration. Stores a copy of all settings (class, teacher, etc.) and information (student names, class names, etc.) on the inserted Smart Media card.
Load Config	Press to upload the system configuration from the inserted Smart Media card. Uploads all settings (class, teacher, etc.) and information (student names, class names, etc.) from the inserted Smart Media card. Replaces all existing information.
Load MIDI	Press to upload MIDI information from a Smart Media card, if settings for keyboards in use are not pre-programmed on GEC3. MIDI contents cannot be loaded when All Call is active. Turn off All Call before loading!
MIDI Sys. Exclusive Commands Group Box	
Default MIDI	Selected keyboard makes and models are listed here. Press the appropriate one to send the system exclusive command to the keyboard so the keyboard can be used with the Split Feature.
Save Class and Global/Teacher Setup Group Box	
Save Class Setup	Press to save the class setup, as configured on the *Setup* tab, for the classes associated with your name.
Save Global Setup	Press to save the Global setup, as configured on the *Global* tab, for the properties associated with the teacher.

How To…

Save System Configurations

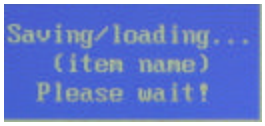
1. Make sure the system is set as you would like it to be backed up.
2. Insert a Smartmedia card.
3. Press **Save Config**.
   The Saving/Loading screen displays. It looks like this:



Wait until action is competed, then continue GEC3 use.

Save Class Setup

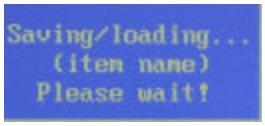
1. Make sure the system is set as you would like it to be backed up.
2. Press **Save Class Setup**.
   The Saving/Loading screen displays. It looks like this:



Wait until action is competed, then continue GEC3 use.

Save Global Setup

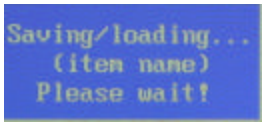
1. Make sure the system is set as you would like it to be backed up.
2. Press **Save Global Setup**.
   The Saving/Loading screen displays. It looks like this:



Wait until action is competed, then continue GEC3 use.

Load System Configuration

1. Insert the Smartmedia card on which system data is backed up.
2. Press the **Load System Configuration** button on the *Disk* tab.
   The Saving/Loading screen displays. It looks like this:

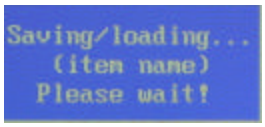


Wait until action is competed, then continue GEC3 use.

Load MIDI Settings

1. Press the button for the MIDI keyboard setting you would like to load

2. The Saving/Loading screen displays. It looks like this:



Wait until action is competed.

The Split Feature allows 2 students to work independently at the same electronic keyboard (they can't hear each other). The feature works if custom splits have been defined on the keyboard in which one side of the keyboard is "panned" all the way to the left side of the stereo field and the other side of the keyboard is panned all the way to the right side of the stereo field. These custom splits have already been defined for popular Korg keyboards and can be delivered via MIDI system exclusive commands.

The Split Feature is initiated at the student workstations. The students select the split (done in "Combination" mode on Korg Keyboards) and push the "Split" button on their workstation Student Interface (SI) boxes.

The teacher can monitor the 2 students separately by pressing either the "A" or "B" buttons under the Touch Screen display. Although the teacher can lis ten to the students separately, he or she cannot speak to the students separately.

Installation

Note:

When installing your music laboratory, we strongly urge you to adhere to local building and electrical codes. If you are not familiar with local building regulations for the installation of electrical equipment in your school or studio, seek assistance from maintenance personnel, electrical contractors, and/or local government (county or township) offices for information.

The Planning Stage

The more time and thought you give to planning your music laboratory, the fewer problems you are likely to face when installing and using it in a teaching situation. The checklist below will assist you in preliminary planning. We recommend that you use the checklist to design a teaching environment that will meet your needs.

- Before you begin, consider the following:
- Allow for future expansion: if possible, leave sufficient room for additional equipment and cabling.
- When planning teacher and student workstations, don't forget that some instruments are freestanding and others require stands, which add to their length, width, and/or depth.
- Take into account student sight lines; it will be important for students to see the teacher, as well as blackboards and other teaching aids.
- If students are to work and perform in duets, quartets, or customized groups, place student keyboard/workstations so that students within groups can easily establish eye contact.
- Ensure that the teacher can easily access his or her instrument, as well as external audio equipment (such as additional instruments, tape recorders, CD players/burners, etc.).
- Position the room monitors so that the teacher, as well as the students can hear them clearly.

Site Plan Checklist

1. Diagram the dimensions of the physical site where the music laboratory will be located. Make sure that the diagram is drawn to scale.

2. Note on the diagram the placement of all doors, windows, and AC outlets.
3. List the equipment that will be used by the teacher, including the teacher's keyboard, **Group Education Controller 3**, and any additional MIDI devices or MIDI instruments, computer, audio accessories such as tape decks, CD players/burners, stereo amplifier/receiver, self-powered monitors, and/or speakers.
4. How many student stations will the music laboratory contain?
5. List the equipment that will be used by each student.
6. What are the approximate dimensions of each student station? Include the student bench or chair, allowing sufficient space between the instrument and bench for the student to be seated comfortable and for the teacher and other students to walk between stations.
7. Draw to scale a diagram of teacher and student workstations, as well as all additional audio and/or MIDI accessories.
8. Once the teacher station and student stations are positioned in the diagram, add AC and Communication Cable (the cable that connects the Student Communications Interfaces, or SI's to the GEC3) routings. Finally, add the cable routings for the audio accessories (such as tape decks, CD players/burners, stereo amplifiers, etc.).

Cabling Estimates and Requirements

Here are the different kinds of cable that will be essential to the music laboratory installation:

1. **AC Cable** carrying electrical current to all devices. Be sure that there are enough grounded AC outlets to accommodate the teacher and student stations.
2. Audio Cable carrying:
   - Signals from the teacher's instruments and external audio equipment to the **GEC3**.
   - Signals from the **GEC3** to an amplifier (or powered monitors), tape recorder, CD player/burner.
   - Signals from the student instruments and student computers to the **SI's**.

All the audio inputs and outputs on the rear panel of the **GEC3**, as well as the **SI's** student instrument inputs, utilize standard phono jack connectors. See the "Position Your Equipment" section below for suggestions on the placement of the **GEC3** and **SI's**.

1. **Communications Cable** carrying audio and communication signals between the **GEC3** and the **SI's**. This modular eight-conductor cabling is inexpensive and is available in fourteen, twenty-five, and thirty-three foot lengths from your local authorized Korg dealer.
2. **MIDI Cables.** MIDI IN – the MIDI OUT port of the Teacher Instrument can be connected to the **GEC3** MIDI IN port via a conventional MIDI cable. MIDI OUT – the

MIDI IN port of the first student keyboard can be connected to the **GEC3** MIDI OUT port to receive program change messages from the Teacher Instrument connected to the MIDI IN port of the **GEC3.** Using the MIDI THRU port of the first student keyboard, the second student keyboard can be included in the MIDI system as well. This can be repeated to include all student keyboards in the lab**. The MIDI OUT port can also be used to deliver system exclusive "Keyboard Setups" to configure popular keyboards to take advantage of the GEC3's Split Function.**

3. **Speaker Cable.** If your monitors are not self-powered, you will also require speaker wire to carry audio signals from the room amplifier (which may be a standard stereo receiver) to the room speakers. This wire should be of the heaviest gauge practical.
4. **Computer Cable**. If you are utilizing the GEC3 with a digital audio recording system, a co-ax S/PDIF cable will be required. If you are utilizing the USB port of the GEC3, you will need a USB accessory cable.

Sizing Cables

The placement of the equipment in your music laboratory will determine the lengths of cabling required. In order to select the appropriate lengths of communications cable, measure the distance from the **GEC3** to the floor, floor distance from teacher station to student piano, floor to **SI**, and include an additional twelve to twenty-four inches for movement and slack.

Korg offers communications cables in three sizes. The cables, **CC-14**, **CC-25**, and **CC-33** are available in fourteen, twenty-five, and thirty-three foot lengths respectively.

If your installation requires longer or shorter communications cables than those available from Korg U.S.A., your authorized **Korg Education Dealer** will gladly assist in sourcing and installing the cabling.

After all the equipment and cabling has arrived, it's time for the actual installation.

The Installation Stage

Positioning Equipment

You should begin your installation by:

1. Positioning the teacher and student stations in accordance with your site plan;
2. Placing all audio accessories in their designated areas; and,
3. Positioning the **GEC3** and each **SI**.

Mounting the SI's

Each **Student Communications Interface** should be mounted on or near the student instruments, making it easier for students to access volume controls and call buttons. This will also minimize the length of audio cables required between student instrument and **SI**.

Position SI's so that student headset cables will not be in the way, inhibiting students' natural movement in playing. SI's may be attached to desks or wooden tables using wood screws.

Positioning the GEC3

Similarly, the Group Education Controller should be placed on or near the teacher instrument and close to external audio devices and the room amplifier, for ease of use.

Connect Cabling

Once all equipment is in place, you are ready to lay down the wiring that will connect all lab equipment:

- Start with the AC cabling.
- Next, connect the fixed audio, modular, and speaker cabling (that is, cabling for devices, such as the **GEC3**, **SI's**, and teacher and student instruments that you don't expect to move).
- Finally, lay down cabling for any devices that you think may have to be moved from time to time.

SI Connections

- Having permanently mounted the **SI** to or near the student instruments, connect all student instrument outputs to the **SI** inputs.
- If the student workstations include a personal computer, connect the computer audio signals to each **SI's** auxiliary input. Consult the computer manufacturer regarding procedures for disabling the computer's internal speakers for connection to the **SI's**.

GEC3 Connections

- Connect the teacher instrument's auxiliary output(s) or headphone output to the GEC3's instrument inputs, left and right.

- If the teacher workstation includes a stereo cassette recorder, auxiliary audio source (like a CD player/burner), or additional MIDI sound sources, connect the equipment at this time. Be sure to route all signals in stereo, or split the signal using an appropriate cable or adapter.
- If the GEC3 is to be connected to an external amplification system, connect the Room Outs to the amplifier, receiver, or powered monitors at this time.

Of particular concern are the AC, audio and communications (modular) cabling runs themselves. In the interest of neatness and in order to avoid potential accidents, you should use many cable ties. In order to minimize potential interference, always try to keep AC, audio, and communications cables as far apart as possible, always attempting to avoid parallel runs.

In addition, avoid exposed and/or loose cabling, avoiding cable runs across walkways and aisles.

More on the Communication Cables

In configuring a **GEC3 learning System**, the only non-standard cables integral to installation are the **Communications Cables**. These are Ethernet, eight conductor cables (category 3 or 5).

GEC3 Communication Cables can be purchased in two ways:

Korg supplies three lengths of **Communications Cables**, **CC-14/25/33**, in fourteen, twenty-five, and thirty-three foot lengths.

When permanently installing a large **GEC3 Learning System**, the purchase of a spool of category 3 or 5 cable, connectors, crimping tool, and cable tester may be preferable. Material specifications are listed below and the cable, connectors, and crimper can be purchased from any computer network or cable wholesaler:

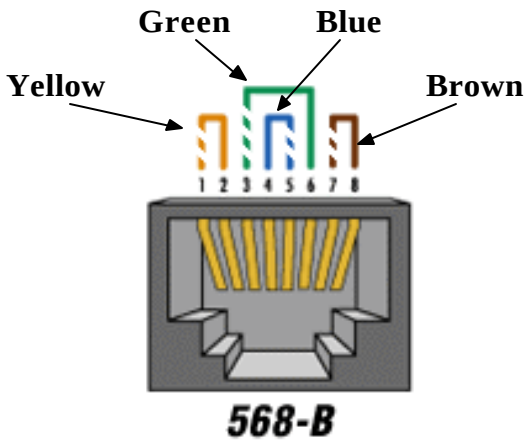
1. Cable: eight-conductor category 3 or category 5
2. Connectors: RJ-45 type
3. Crimping: RJ-45 type

Note:

*If you are not experienced in network installation, Korg U.S.A. recommends that you purchase the **Communications Cables** noted above or that you contact a local professional who has experience in network installation.*

Crimping Your Own Cables

When crimping your own cable for installation, the cable must not be pinned like a standard telephone cable (pin 1 to pin 8). The cable must be crimped with pin 1 matching pin 1 at the opposite end, pin 2 matching pin 2 at the opposite end, etc. in order for the **GEC** and **SCI's** to function properly.



Note:

*If the cables are not crimped properly, permanent damage may be caused to the **GEC3** and/or the **SI's**. If you have questions regarding crimping procedures or you do not feel confident in completing the cabling process, contact your local Korg Educational Dealer or Korg U.S.A. Technical Support.*

Troubleshooting

If your GEC3 system does not work correctly, check instrument volume levels, the **SI** and **GEC3** volume levels, audio connections, and communications connections (crimping of RJ45 connectors). If problems cannot be resolved, contact your **Korg-Authorized Educational Dealer** or Korg U.S.A. Technical Support at (516) 333 -USER.

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